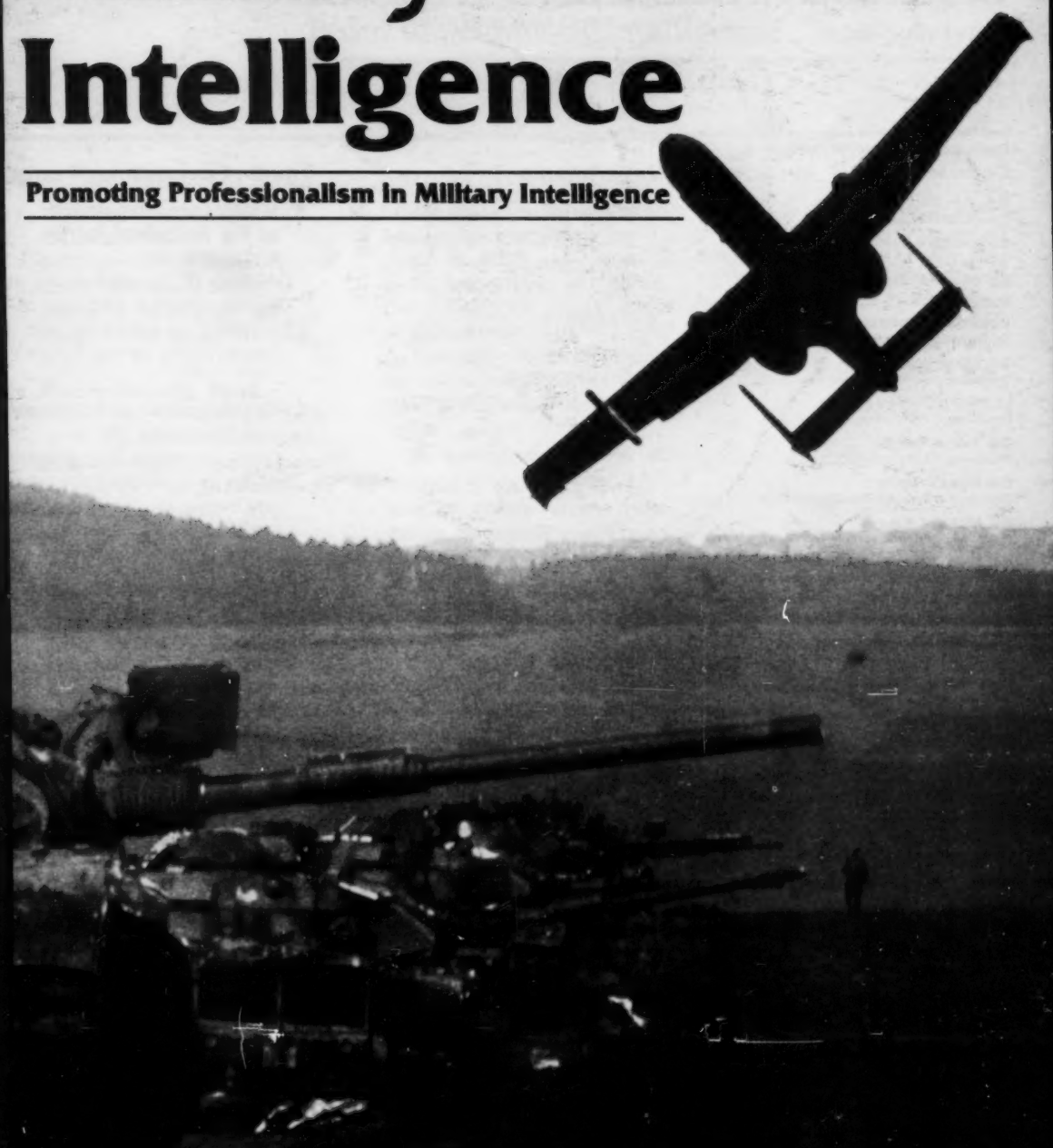
Military Intelligence

April-June 1983

Promoting Professionalism in Military Intelligence



Intelligence and Electronic Warfare and the AirLand Battle

Cover:

The cover illustrates the AirLand battlefield on which intelligence and electronic warfare will be an important key to success. (U.S. Air Force photo by Jose Lopez, Jr.)

Departments

Theme Features

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Military Intelligence

From the Home of Intelligence April-June 1983

Other Features

Next Issue

For our July-September issue, we will have reports on the intelligence operations of our sister services, the Air Force, Navy and Marines. We will also take a look at the joint interoperability of tactical command and control systems and the joint intelligence role in C^3 countermeasures.

Vol. 9, No. 2

Honorable John O. Marsh, Jr.
Secretary of the Army

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From the Commander

by Brig. Gen. Sidney T. Weinstein

I think all of us, from time to time, look into the future and try to see a path through current uncertainty. Based on what I know as I have done my "crystal balling" lately, I feel confidence. There isn't anything terribly complex that leads me to that, it is simply the fact that what I see out there is not quite as packed with the uncertainties that have plagued us for so long. My enthusiasm grows daily, but let me offer a couple of illustrations on the things which have raised my confidence.

First, and perhaps my most encouraging observation, is that USAICS, in all its locations and organizations, is gaining recognition as a center of excellence and the Home of Military Intelligence. This is happening for two reasons: there is excellent work underway everywhere, and most importantly, you, the MI personnel, are representing our branch so well. This is borne out in all my travels as senior officers, commanders and staff personnel reflect on the excellence of MI people and products.

An area where uncertainty and anxiety is giving way to direction and confidence is in doctrine. This issue of the MI Magazine includes articles related to intelligence and electronic warfare doctrine. The picture of how we need to do our business is coalescing as experience accumulates. Innovative ways of capturing that experience are yielding pages of new doctrinal literature. Efforts in counterintelligence, collection management, battalion operations, and electronic warfare are underway throughout USAICS. Field soldiers and doctrinal writers are meeting and hard "knuckle drill" sessions are producing results.

The same type of activity is underway in the combat developments arena. The All Source Analysis System is starting its march through the development process. MICROFIX, a FORSCOM-based microcomputer is also moving out. Under this far-reaching program, microcomputers should be in the field very soon. Computer driven training packages are also part of the effort.

We have an approved solution to the entry level officer training and education requirement. A new and comprehensive revision to the Military Intelligence Office Basic Course has been approved by DA and TRADOC. The all-source trained lieutentant is finally going to be reality. With MIOBC on track, advanced officer education and training is next on the agenda. A full report will appear in the next issue of the MI Magazine.

Input from the field has also been instrumental in MI ARTEP production. For example, members of the 163rd MI Battalion recently came to Fort Huachuca to assist in developing an ARTEP for the tactical exploitation battalion. The effort was based on the excellent work of the 163rd at Fort Hood. This kind of effort will continue and expand.

Something new and not yet fully defined called Specialty Proponency is also happening. USAICS will be able to function as the Home of Military Intelligence in a more contributive way as this process matures.

This is just a capsule summary of the highlights but it represents the stuff that makes me look forward to coming to work every morning. The ball is really rolling; lend your energy and talent to the effort. USAICS is the Home of Military Intelligence to meet your needs.

Feedback

Preventing Misuse of Trained Soldiers

Editor:

This letter is in response to the item in the "Enlisted Notes" section of the October-December 1982 MI Magazine entitled "Preventing Misuse of Trained Soldiers." In it, the author decries assigning MI MOS-holding soldiers to company positions which do not use their technical expertise. In a perfect world, the company commander has an MTOE which is adequate to support the unit mission, MILPERCEN is sending the commander soldiers in the grade and MOS which MTOE authorizes, and everyone is fulfilled and happy. In the real world, at least in the small world of the CEWI battalion, the MTOE is not even close to supporting mission requirements, and soldiers are not arriving to fill positions authorized by the current MTOE. The commander is left with difficult choices. If the MTOE authorizes an E4 71L unit clerk and and E4 76Y armorer, and no one else is available in any "common" MOS to fill the positions, does the company commander leave them vacant? Just because headquarters companies are not authorized a 54E as NBC NCO, does NBC training and equipment maintenance miraculously become a part-time additional duty in those companies, but not in the rest that do have full-time NBC personnel?

The answers to both questions, from this HOC commander, is an emphatic no. Given the complete absence of soldiers in the authorized MOS, the only soldiers left in an MI company are obviously holding MI MOSs. I am perfectly aware of their expensive technical training, but, in my opinion, NBC training and continuous weapons maintenance are as important as intelligence production for this company to be prepared for combat.

So, when I place a 96D in the NBC room, an 05G in the arms room, and a 98C in the orderly room (actual cases, Virginia), it is after careful thought. It happens because these are important jobs which must be performed daily for my company to meet mission requirements, and the personnel system has not provided the "right" people. By the way, the new CEWI "J" Series MTOE effective in October 1983, is worse than the current one, so expect more "misuse," not less.

Capt. Leonette W. Slay
Commander, HOC,
103rd MI Battalion (CEWI)

Editor:

I would like to respond to the article "Preventing Misuse of Trained Soldiers" that was published in the October-December 1982 issue of MI Magazine. It is obvious to me that the author of this piece is out of touch with how personnel management is being conducted today. Instead of pointing out the "stories" heard about local malutilization of soldiers and actions being taken by the Professional Development NCOs at MI/MP Branch, the article should have concentrated on the actions (if any) being taken by the Distribution and Assignment NCOs to correct the problem which has been caused by MILPERCEN, USAICS, TRADOC, INSCOM, etc., and occasionally exacerbated by local AG management offices.

First of all, soldiers cannot "assume that they are being assigned to an installation or activity based on a valid requirements for their grade, primary MOS, and, in many cases, additional skill identifier, and language." As an example, my battalion currently has 200 percent of its authorized strength of 98G Russian linguists (18 authorized; 36 on hand). Even if we had the facilities to utilize them all, we can't because of the limited number of SI billets we're authorized; all of our 33 and 98 series personnel require SI access to perform their duties. Under these circumstances, the requirement of paragraph 7-11, AR 614-200, is ridiculous. Secondly, paragraph 4, DA Msg 091713Z Dec. 82, allows that bonus recipients that cannot be properly utilized may be reported surplus as corrective action. This we have done.

Finally, "scrubbing" TDAs and TOEs of non-essential intelligence positions is only a partial solution to the problem. What "will insure that soldiers with intelligence skills are assigned where they can do the most good for the Army" is for USAICS, TRADOC, MILPERCEN, and INSCOM to collectively develop reasonable TOEs and TDAs that have enough slots for non-intelligence MOSs, a means of tracking and assigning personnel based upon at least a seven character MOS such as 33S30L2, 33S20N1, 35R10R5, etc., and providing enough SI and SAO billets to allow them access to their workplace. Until this happens, I would like to suggest that MI Magazine refrain from publishing articles that are insulting to field commanders and their personnel managers.

1st Lt.(P) James E. Durkee
Adjutant, 224th MI Battalion (Aerial Exploitation)

Soviet Airborne

Editor:

The article by SFC Bunce on Soviet airborne troops in the October-December 1982 issue was a useful contribution to the study of Soviet organization and order of battle, areas too often neglected by military intelligence specialists. Some aspects need amplification, regarding both the Soviet organizational flexibility in response to stress, and the role of airborne troops as a high quality asset without regard for their primary function. The 1930 landings involved units of only a dozen men, but brigades became the standard units in 1934-36. In spring 1941, five airborne corps were created by expanding brigades, producing a total of 16 airborne brigades. At the start of the Great Patriotic War, these corps were used as ground infantry to block major German penetrations, because of expediency, their relatively high training and morale level, and a shortage of transport aircraft which restricted their employment as parachutists. In these actions they generally performed better than did regular rifle divisions, although weaker than

Continued on page 58

Intelligence Preparation of the Battlefield for the AirLand Battle

by Joseph D. Colanto

Intelligence preparation of the battlefield is a systematic approach of defining how the intelligence system works in a time-critical, highly lethal battlefield enviornment. The AirLand battle concept describes friendly maneuver forces moving faster and covering larger areas than in the past. Success on the AirLand battlefield depends on the successful completion of IPB data bases and processes.

IPB involves a detailed tactical intelligence analysis of enemy, weather and terrain to provide a comparative data base of enemy capabilities and courses of action which form the basis for predicting intentions. This analysis also provides the information initially required to allocate and concentrate intelligence collection and combat resources at the critical time and place.

The intelligence production section of the TOC support element is responsible for performing the IPB functions. This section is supported by a direct support terrain team from the engineer topographic battalion, which provides terrain information and products. These products include terrain factor overlays, combined obstacle overlays, cross-country movement overlays, and line of sight studies. The supporting U.S. Air Force weather team also makes an important contribution to the continuous IPB process by providing the information the analyst needs to estimate the effects of weather on operations.

The functions IPB deals with are not new. What is new about the IPB process is the way it standardizes the methods used to analyze enemy doctrine, weather factors, and terrain factors as techniques of tactical intelligence analysis. It also emphasizes the use of graphics rather than text to depict and communicate combat intelligence and combat information. The IPB involves five major steps.

Step one is Threat evaluation. Threat evaluation is a detailed threat analysis of enemy doctrine, tactics, weapons and equipment. The battlefield functions systems determine the size, type, location, and mission of enemy forces emphasizing the capability to use forces in specific areas and climates of the world. In this step, a technique known as template construction begins to convert the available threat data base to graphic displays. These graphics, called doctrinal templates, provide descriptions of unit and force composition and depict how the enemy would like to be configured to fight. Doctrinal templates may consist of equipment numbers and ratios, electromagnetic signatures, and/or spatial distribution of elements within units or forces.

Step two is the determination and evaluation of the commander's areas of influence and areas of interest. In these areas the IPB process is concentrated so the commander is provided the data bases required to see the four dimensions of the battlefield: length, depth, height (or air space), and time. Data bases, including map, photo, and encyclopedic data, are accumulated and evaluated for the areas involved.

Step three is terrain analysis. In this step the IPB analyst is tasked to describe military significant geographic factors which can affect trafficability and visibility. Many of these factors are not available from a standard military topographic map. For example, on a standard topo map, green indicates vegetation but it does not show tree spacing and stem diameter that would impede armor movement; soil types, also not shown, can inhibit movement when wet. A slope overlay is another example of the many possible terrain factor overlays that can be developed and used by the analyst. Terrain analysis reduces uncertainties regarding the terrain's effect on both friendly and enemy capabilities to move, shoot, and communicate.

Step four is weather analysis. The effects of weather on terrain makes steps three and four inseparable. IPB focuses on how the aspects of weather impact on terrain and military operations. The traditional weather products, the weather observation, the forecast and climatic studies, do not provide all the information analyst requires. Products such as the fog overlay must be constructed to study the effects of seasonal fog patterns and densities on trafficability and visibility.

All of the various terrain and weather factor overlays are then combined to create a combined obstacles overlay, showing all the major terrain and weather related obstacles that can influence mobility. The analyst then identifies candidate avenues of approach into the commander's area of operation. The analyst could use a zone of action template for this purpose. Mobility corridors within these avenues of approach are selected based upon the enemy's capability to shoot, move, and communicate. All obstacles are carefully delineated to better estimate the actual width of the corridor available for maneuver. Because the level of detail for terrain and weather analysis allows for the mobility corridor to be delineated in detail, rates of movement and prob-

able activities can be predicted more accurately than in the past. The importance of predicting a timetable of events becomes more apparent during the discussion concerning events and decision support template construction.

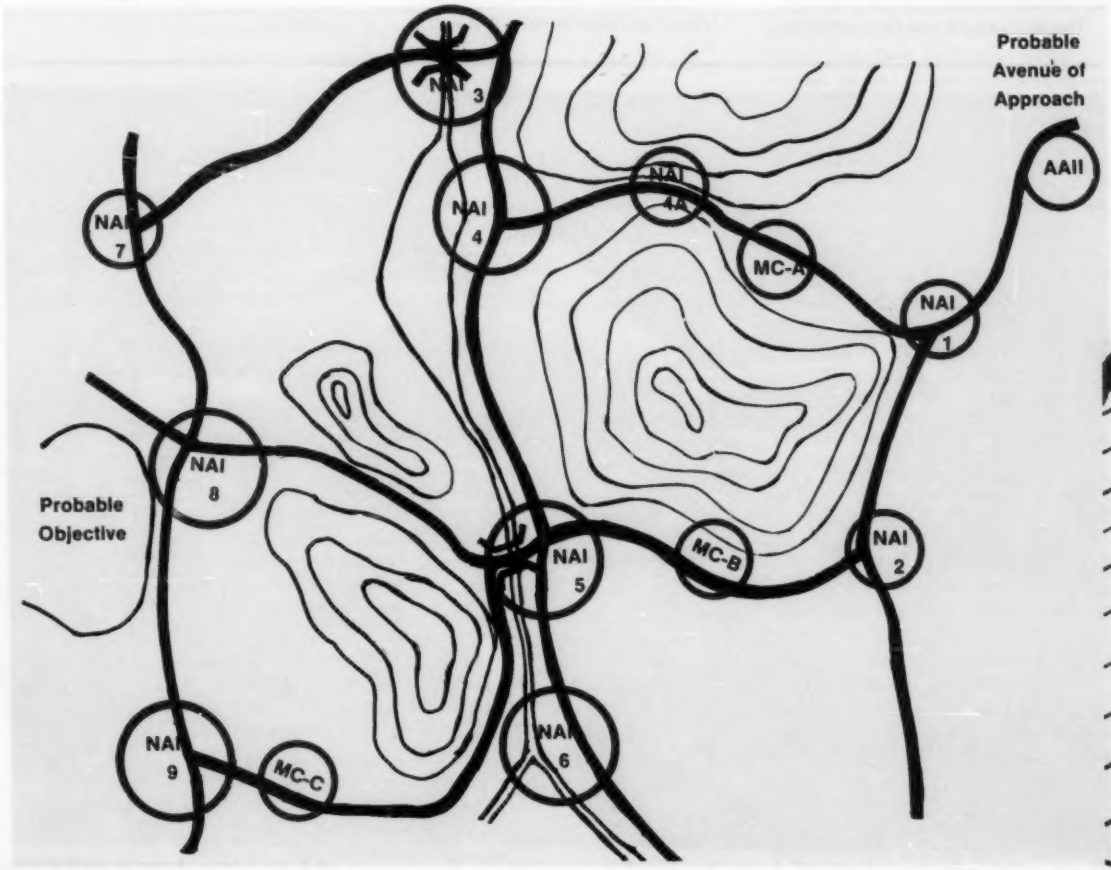
Step five is Threat integration. This step relates how the enemy force would like to fight in a specific terrain and weather scenario as a basis for determining how the enemy force will fight. This is where all four steps are integrated into what is known about the Threat to provide an accurate description of the battlefield. The template construction process essential to this step consists of producing doctrinal, situation, event and decision support templates for use by the commander, staff officers and analysts.

The situation template is a doctrinal template with terrain and weather constraints applied. It is produced by placing a doctrinal template over a selected mobility corridor or specific terrain configuration and noting how the enemy force must modify its doctrinal configuration to account for terrain constraints. The analyst uses military judgment to fit the enemy force to the terrain as closely as possible.

As an enemy force moves along a mobility corridor, it will be required to do certain things at certain times and places which are dictated by terrain, weather, and tactics. Based on a predicted rate of movement, terrain and tactical considerations, the analyst selects named areas of interest where he expects to see certain activities or events that have tactical significance. NAIs, which may later become target areas of interest, are points or areas along a particular avenue of approach or mobility corridor where activity, or lack of it, will help to confirm or deny a particular enemy course of action. Analysis of these potential events and activities is the basis for the event template.

The event template is a projection of what will occur if a certain course of action is adopted by the enemy.

An event analysis matrix enables the analyst to more precisely correlate what event or activity is expected with the geographical location and time the event is expected to take place. This capability, along with doctrinal and situation templates, provides the basis for critical node or high value target analysis. The estimated times between named areas of interest within a mobility corridor are derived by determining the effects of terrain and normal seasonal conditions on doctrinal rates of advance—derived from steps three and four of the IPB process. The event template and events analysis matrix allow for the initiation of precise collection requirements; maximizing the use of limited collection assets against the



Event Template

vast array of potential targets on the future battlefield. By knowing in advance what the enemy can do and comparing it with what is known about what he is doing, the analyst has the basis for predicting what the enemy intends to do next. Such information provides the basis for constructing decision support templates.

Event and decision support templates, the most important products of the IPB process, represent a reduction of all the analysis and template construction tasks that have preceded them into an intelligence estimate in graphic format of the "who, what, where, when, and in what strength" of the enemy force the commander faces. Decision points are areas chosen because of the time and distance from target areas of interest. If a decision is not made by the commander before an enemy force reaches or passes a decision point, a set of options which had existed may be negated.

The end results are recommendations using graphic aids which the G2 can use for collection management and briefing the intelligence estimate. The G3 can also use these products for recommended initial friendly deployment, task organization, and subsequent redirection of assets for both the close-in battle and the second-echelon fight. All-source analysis, with current intelligence supported by IPB, will provide a more accurate estimate of enemy locations and intentions. This data, when combined with target value analysis, will provide the data bases needed for the targeting cell described in the TRADOC AirLand Battle Concept. Accurate IPB terrain and weather information to depths beyond 150 kilometers concerning such things as bridges, fording sites, and areas where enemy forces can be channeled, delayed or rerouted is critical if such a cell is to operate effectively.

In summary, IPB can be described as the continuous systematic process of developing data bases for integration of terrain, weather, and threat information, prior to and during hostilities. The resulting IPB products such as overlays, graphic displays, and templating techniques are used to increase accuracy and timeliness of intelligence to the commander for both offensive and defensive operations. IPB emphasizes the generation of data bases, after doing detailed analyses of areas of operation, that will be used to support collection planning, collection, situation assessment, target development, EW and OPSEC. Detailed knowledge of terrain and weather effects on operations and an accurate assessment of enemy intentions are key factors in providing the windows for action required to seize the initiative at the right time and place to assure decisive success on the AirLand Battlefield.

Mr. Joseph D. Colanto is an Intelligence Research Specialist for the Concepts Branch, Concepts and Studies Division, Directorate of Combat Developments, USAICS.

"Ready to Fight—Anytime—Anyplace" A-10A Thunderbolt II

U.S. Air Force photo by Walt Weibl

The Principles of Intelligence and Electronic Warfare

by Capt. Jonathan S. Lockwood

There are not many in the Army today who have not at least heard of the nine principles of war. The principles of objective, the offensive, mass, maneuver, unity of command, security, economy of force, simplicity and surprise are the crystallization of military theory; the so-called "common sense" guidelines for the formulation of military and operational strategy which commanders throughout history have not been able to violate consistently without paying the price on the battlefield.

Since Military Intelligence is young, by comparison with the rest of the U.S. Army, there has not been time for the establishment of guidelines which the tactical intelligence officer can use as an aid in conducting his primary mission; keeping the commander informed of the enemy situation and intentions at all times while using his electronic warfare assets to disrupt enemy operations. These principles are intended as a "common sense" set of guidelines for intelligence at all levels.

Prevent and exploit surprise; know your enemy

There are two ingredients required for the achievement of surprise on the modern battlefield: one side willing to conduct effective deception operations, maintaining good operational security, and another side willing to let itself be surprised by conducting a poor intelligence effort. If IEW units do the job they are required to do, it will be extremely difficult for the enemy to achieve surprise against friendly forces. Good intelligence work helps prevent the achievement of surprise by the enemy. Study your adversary, learn his tactics, look for patterns of operation, as well as the idiosyncrasies of individual units and enemy commanders, and know the cultural background of the soldiers you are fighting. This is important in determining possible patterns of behavior. In short, learn your enemy's strengths, so that you can avoid them, learn his weaknesses, so that you can exploit them.

Blind and deafen the enemy

This is an objective of IEW on any battlefield, whether it is a conventional battlefield, or one on which nuclear and/or chemical weapons are likely to be used. It is just as applicable to the enemy's electronic "eyes and ears" as it is to his physical means of visual reconnaissance. If the enemy can be kept as unaware as possible of the real friendly situation and our intentions, the chances that friendly forces have for achieving decisive success in battle through the attainment of surprise will be far greater.

Use all assets efficiently, but not predictably

This should be self-evident, but it is not possible for the G2 to attempt to collect against or jam every enemy emitter on the battlefield. There are too many enemy emitters and not enough friendly capability to collect and/or jam them. Thus, one must ascertain which enemy emitters are more important than others at any given time on the battlefield so they can be attacked. The G2 decides what his priorities are, based upon his situation at the time and the commander's guidance. He consults with the G3 to allocate his limited resources to have the best chance for achieving his most important objectives. Never develop a "standard" allocation of IEW resources for the majority of situations as this only aids the

enemy in his efforts to negate the effectiveness of our IEW.

Force the enemy to expose his most sophisticated systems to destruction

By practicing good OPSEC, and by conducting an aggressive jamming and targeting effort against enemy IEW assets, the enemy will be increasingly forced to expose his more sophisticated IEW equipment and other assets to destruction by friendly forces. In this way, IEW contributes to the attainment of qualitative superiority on the battlefield.

Determine, locate, and attack those enemy targets most valuable to him

IEW assets should be tasked to find the targets and notes considered most important to the enemy commander in carrying out his mission. On an "integrated" battlefield, for example, the location and immediate targeting for destruction of both suspected as well as known enemy nuclear and chemical weapon and warhead locations will be of paramount importance. Targets of this nature are known as "high payoff targets." The prompt location, targeting, or jamming of these high payoff targets will have the most immediate and favorable effect on the course of the battle.

Create maximum disruption of enemy C³I at the critical phases of the battle

It is not enough merely to hamper the enemy's command, control, communications, and intelligence efforts intermittently over the course of battle. It must be decisively disrupted during the most important phases of the enemy's attack to offset his numerical superiority by removing his ability to use his forces in a coordinated fashion. Conversely, his ability to respond to our offensive maneuver in a timely manner can be considerably reduced by the concentrated use of IEW resources at the critical point in the battle, rather than using them piecemeal simply to harass him.

Reduce intelligence cycle time below the enemy's decision cycle time without sacrificing accuracy

The process of gathering, processing, analyzing, and disseminating intelligence information must be greatly accelerated in order to gain the greatest possible advantage over the enemy by rendering his actions irrelevant. However, the accuracy of the finished intelligence product must not be sacrificed in an effort merely to gain time, otherwise the benefits of this extra time are lost because of acting on erroneous intelligence estimates.

Continuity of operations is vital

The conduct of intelligence gathering and electronic warfare against the enemy must be conducted without interruption. The loss of even a few minutes continuous operation in intelligence gathering can be potentially disastrous, especially if nuclear and chemical weapons are present in the area of operations. If U.S. forces fall into a pattern of having "lulls" in IEW activity during certain hours of the day, the enemy will discover this pattern and make use of it to destroy us.

Balance the need for dispersion with the terrain requirements of supported units

While IEW units can always make use of key terrain, the maneuver units which you support can make better use of it. On an integrated battlefield, the need for dispersion is great in view of the likelihood of enemy use of nuclear weapons. Under many conditions, IEW units will be competing for terrain with maneuver units. Therefore, preplanned site selection and allocation plans must be made first by the supported unit and then by the IEW unit. IEW units should avoid locating on prominent terrain or in close proximity to other emitters.

A halfhearted intelligence collection effort is as wasteful and futile as a halfhearted attack. A successful commander does not waste resources under his control because of failing to appreciate their value. Instead, he takes the time to learn about them, to understand what they can and cannot do, and demands the utmost of their use. Knowledge of and adherence to these principles of tactical IEW will help the commander derive the most from his intelligence eyes and ears, blind and deafen those of the enemy and contribute to dissipating the "fog of war."

Intelligence and Electronic Warfare at the NTC

by Capt. Ronald L. Burgess and 1st Lt. Warren H. Fowler, III

A target-rich tactical environment, actual OPFOR-type maneuver elements, and a vast expanse of desert terrain combine to provide an excellent intelligence/electronic warfare training opportunity. The 124th Military Intelligence Battalion (CEWI) has taken advantage of this opportunity to test concepts and train for tactical electronic warfare on three occasions at the National Training Center, Fort Irwin, Calif. Refinement of IEW techniques, reacting to lessons learned and optimizing electronic warfare equipment capabilities are ongoing as the unit prepares for its next deployment to the California desert.

This article provides a summary of the insights gained thus far when using electronic warfare as a combat multiplier in a battlefield situation that approximates actual combat. The training, however, is not without its limitations.

The primary objective of the center is to provide a realistic combat environment in which to train and evaluate U.S. mechanized infantry and armor forces in action against OPFOR maneuver elements. The OPFOR elements at the NTC include one U.S. armor battalion and one U.S. mechanized infantry battalion, which are used to represent the standard Soviet BMP-equipped motorized rifle regiment composed of three motorized rifle battalions and one armor battalion. Only the first echelon MRR is actually fielded at the NTC; second-echelon OPFOR combat units are portrayed notionally.

The AirLand Battle doctrine of the 1980's dictates that commanders see the battlefield beyond the first echelon and bring maximum combat power to bear on the enemy as deep as possible. Division and brigade level IEW assets are generally deployed to intercept, locate and disrupt enemy second echelon elements.

Since second echelon elements are not deployed at the NTC, the task of signals intelligence and electronic warfare assets there is to support U.S. maneuver elements with intelligence and electronic warfare against the OPFOR first echelon. The OPFOR thus presents an unrealistic electromagnetic spectrum; nonetheless, training in the techniques of traffic analysis, radio intercept, jamming, direction finding and imitative communications deception is readily available in the target-rich battlefield of the NTC.

The second limitation of IEW training at the NTC concerns the small number of OPFOR communications nets on the air, usually one regimental and three battalion command frequencies. With only these four nets to monitor, IEW assets can provide "cast iron" coverage of all frequencies. This results in the routine provision of detailed, time perishable, low-level combat information to the supported maneuver unit commander. On the modern battlefield, such information would be

provided by the U.S. maneuver unit's organic and supporting elements, such as units in contact, patrols, and ground surveillance radars. In actual combat, most of the MI battalion assets would be targeting second-echelon forces.

A final issue concerns linguist training of MI battalion slice elements deployed to the NTC. Since the OPFOR at the NTC is comprised of U.S. soldiers speaking English, 96C and 98G linguist personnel do not improve their foreign language proficiency. To ensure continued language maintenance training, language packages are prepared in advance and sent with deploying MI personnel for use at the NTC. As an aside, however, the use of English by the OPFOR does unrealistically facilitate imitative communications deception as is later discussed. Despite these limitations, the battlefield environment at the NTC has provided excellent IEW training.

The following training experiences with electronic support measures and electronic countermeasures, to include ICD, grew out of the deployment of elements of the 124th MI Battalion to the NTC in February, August, and October 1982.

Radio intercept and direction finding were the most exploitable and productive EW techniques. The desert at NTC provides an excellent ESM environment. Intercept ranges are dependent on team positioning, intervening terrain, and the type of antenna used. Intercept distances of 20 to 30 kilometers were the norm during August and October, but were longer by five to 10 kilometers during February. A possible explanation for the increased range during the February exercise is the lower temperature range and higher moisture content of the air and ground during the winter. In one instance during February, three DF outstations were able to intercept, DF, and locate, within 200 meters, an RT-524 radio transmitting on low power at a distance of 29 kilometers. Ideal conditions contributed to this phenomenon—experienced operators, good weather conditions, and a base line of 10 kilometers.

These DF results are significant since the direction finding of OPFOR units at NTC was not a high priority mission. The locating of first echelon units could be easily accomplished by other assets available to the commander. The IEW assets needed to establish a proper DF base line were instead deployed in the overlapping echelons to provide continuous voice collection coverage. This allowed for a steady, uninterrupted flow of intelligence to the commander, but in most cases did not provide the information necessary for targeting.

It is possible, depending on the terrain and combat situation, to establish a DF base line and simultaneously provide overlapping coverage. The effectiveness of either or both missions, however, is usually sacrificed to some extent.

Jamming was very effective in certain situations for limited periods of time. One lesson learned and reinforced is that this variety of ECM must be tasked judiciously and sparingly.

Jamming missions should last a maximum of 15 to 20 minutes, after which the team must immediately relocate. Jamming missions in excess of 20 minutes are increasingly susceptible to OPFOR DF and targeting. Targets were effectively jammed at ranges between 15 and 25 kilometers. Jammers used by 124th MI Battalion elements at the NTC included the VLQ-4T (FAT-JAM), and the AN/TLQ-17.

A problem was encountered at the NTC with the grounding of the AN/TLQ jammer.

The normal ground plane for the equipment was inadequate, causing the reflected power meter to read from 50 to 75 percent reflection. This problem was overcome by weaving a web of WD-1 (communications wire) on top of the ground plane to reinforce it.

Another solution, one which would be less than desirable in an actual combat situation, was to soak the area under the ground plane with water during the time the AN/TLQ-17 was in operation. A combination of the WD-1 weave and water soakage provided the greatest reduction in reflected power.

Another jamming technique that proved useful at the NTC involved the use of two RT-524's peaked to 50 watts, two SG-886 signal generators,

A visually modified Sheridan M-551 armored vehicle in action. The VISMODs serve to realistically duplicate the Soviet armored vehicle's silhouettes. Note the larger, longer gun tube of the 125mm main gun and the 50 caliber machine-gun mounted on top of the tank. Equipped with the Multiple Integrated Laser Engagement System, this particular vehicle is used by the Armor elements to replicate a Soviet T-72 tank which is used as a lead vehicle in the Soviet motorized rifle regiment formations.

and a properly oriented log periodic antenna. The jamming signals were transmitted in at the same time and on the same frequency. Jammers used in this mode are very difficult to DF and locate because the signal being received is being generated from two different locations.

ICD was used successfully in a few instances, but for the most part its effectiveness was unmeasurable. Even though the OPFOR was portrayed unrealistically as an English-speaking enemy, the combat situation demonstrated how effective ICD can be if planned for and used properly as part of an overall friendly deception plan.

The most effective method of employing ICD was to use it in conjunction with ECM. If ECM is used judiciously, then small amounts of misinformation can be inserted during opportune moments of confusion.

During one engagement at the NTC the regimental command frequency was disrupted by ECM, and recovered OPFOR operations codes were inserted into the OPFOR radio transmissions. This caused the OPFOR battalions to maneuver into each other, resulting in confusion and presenting a lucrative target for the defending battalion task force. By the end of the engagement the OPFOR had lost approximately 90 percent of its combat strength with minimal friendly losses.

In another ICD technique, an imitator assumed the callsign of an OPFOR unit in order to keep another OPFOR station on the air for longer periods. This allowed friendly DF outstations to work in conjunction with the ICD mission and provide targeting data to the friendly targeting cell.

ICD is a double-edged sword, however, which has the potential to backfire if strict, centralized control is not maintained. If the OPFOR realizes that its nets are being monitored, then false information can be inserted to mislead the friendly elements. Hence, the requirement to analyze all information carefully prior to reacting with combat action becomes more important. Most of the reason for the limited effectiveness of ICD at the NTC is the increasing professionalism on the part of the OPFOR element communicators.

A final lesson learned is that an enemy can readily improve its communications security and procedures when subjected to repeated EW tactics. Over the three deployments, personnel of the 124th MI Battalion noted that OPFOR personnel were increasingly more difficult to intercept, locate and identify. This is a good sign since the NTC OPFOR will fight on the U.S. side on the next real battlefield, and because the OPFOR's increasing communications security proficiency presages tougher and better training for the intelligence/electronic warfare units who will continue to train at the NTC.

Despite its limitations, the NTC provides excellent training for the elements of the 124th MI Battalion in preparation for its IEW mission support of the 24th Infantry Division (Mechanized). The 24th trains in preparation for possible deployment to Southwest Asia as part of the Rapid Deployment Joint Task Force. The minimal control guidelines imposed by the NTC permit virtually total electronic warfare freeplay. The professionalism and training of the OPFOR provides realistic target opportunities. The desert geography of the NTC approximates that of Southwest Asia to provide a most realistic training environment in which the effectiveness of ECM, ESM and ICD has been demonstrated and the lessons are still being learned. □

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Close up view of the Multiple Integrated Laser Engagement System helmet harness.

AirLand Battle and the S2

AirLand Battle, no longer theory, is doctrine!

The Airland battle doctrine is best described by the old adage "The best defense is a good offense." The offense should and must be deep into the enemy's zone of action and closely coordinated between U.S. Air Force and Army assets.

by 1st Lt. Erik Fedde

AirLand Battle doctrine impacts the S2 by requiring constant, changing and flexible analysis. It requires extensive and detailed knowledge of an enemy force at least two echelons above the S2 (battalion S2 being conversant with enemy divisions, brigade S2, an opposing corps). It requires a detailed knowledge of the enemy's turf, specifically where he has been and where you will go. Finally, it requires close coordination with other staff sections, particularly the S3. With some exceptions, the AirLand Battle calls for the S2 to do what he or she should have been doing all along.

For overseas units in Europe and Korea, the task of AirLand battle planning is simplified by a readily identifiable enemy. It is easy for the S2 assigned to these commands, relying on historical data and updates of current events, to understand and analyze how the enemy will attack. This task is not easy for members of units or organizations like the Rapid Deployment Force, because the enemy could be any number of different opposing threats. In this case, the S2 must prioritize the threats his unit might encounter.

The first step of AirLand Battle planning is to know your enemy: his doctrine, his order of battle, even his personality. Does he favor envelopment? Does he have forces available to carry out his favorite tactics? What kind of training has the opposing force commander been conducting? When you totally understand the enemy, you should be able to "walk a mile in his shoes." You have then completed the first step of AirLand Battle planning.

The second step is terrain analysis. Identify avenues of approach best suited for enemy forces available. Integrate weather into your analysis. Assume that your enemy can attack at anytime with the forces he has. How the enemy is able to attack will rest on the condition of the ground he must travel to reach his objective. For example, in Korea the use of armor during the spring monsoon season would limit its use to roads, preferably paved with adequate drainage. However, the probability of an armor attack increases dramatically in Korea with wintertime conditions, freezing rice paddies and increased visibility. For an attack in Korea to succeed in the spring, foot infantry would have to dominate in an attack. For a wintertime attack, foot infantry could still dominate, but North Korea would be able to use mechanized and armor forces to better advantage. Integrate manmade obstacles into your analysis. This should not be limited to military obstacles (minefields, dragon's teeth, etc.), include built up areas (towns, hamlets), raised highways, and those areas which on the surface have no military application as an obstacle or barrier, but may become one. High voltage power lines, although not designed for it, are a definite obstacle to air assault operations. The S2 can accomplish these steps now, before war starts. After a careful map reconnaissance has been made, go on terrain walks to see the area your unit will defend. Another method is to talk to soldiers who have been in the area and have worked there. The reactions of soldiers to their environment is a valuable measure of how they will perform in combat. It is also a measure of how the enemy will perform. The critical part of terrain analysis is to start now, and make it a continuous process of updating. If an S2 starts when "hostiles cross the border," it may be disastrously late.

ATTACK! ATTACK! ALWAYS ATTACK!

— Napolean

AirLand Battle differs from the old doctrine of the Mobile Defense in the concept of the deep attack. The Army is returning to winning future wars decisively. General Patton put it best, "No man ever won a war by holding his position." Attack thinking goes back even further to Napolean, "Attack! Always attack!" The S2's greatest challenge in the next war will be in attack planning. Your detailed knowledge of the enemy's order of battle may be obsolete as units are destroyed. Enemy commanders will change with casualties and reliefs for cause. You may have no idea what the terrain you will attempt to take is like, because you have not seen it and your maps are based on 30 year old data.

You can overcome these obstacles by remaining aware of the present situation although you are planning the future and keeping informed of what is happening with units in contact. This can alter your analysis of the situation dramatically. You can template what the enemy is doing to some extent, and this should give you an idea of what targets should be out there. Terrain will not change dramatically in war; roads will still be there, even though heavy engi-

neer support may be needed to make them usable. Built up areas under heavy artillery attack will present greater obstacles than ever before. In short, you must know your enemy, and the ground he is on.

In planning the attack, you should be able to determine those targets that are key to the battle. These are known as "critical nodes." An example of a critical node might be a division headquarters. However, if the enemy is in the middle of an attack, chances are good that the division headquarters is merely monitoring how their operation plan is unfolding. A better target might be POL dumps that fuel the enemy's armor and self-propelled artillery. The critical nodes described cannot be identified prior to hostilities, at least in a targetable fashion. (The location of these critical nodes on the battlefield can be surmised through templating, and confirmed by reconnaissance.) Before the battle or outset of hostilities, you can identify key terrain. Ask yourself the question: where would I attack to delay, disrupt, or destroy the enemy? Tactically speaking, hitting key rail junctions may slow down rapid replacement of destroyed armor. Bridges can be critical targets. You know your enemy: How will he react when attacked? Will he destroy bridges behind him? Will he retreat? Where will the reinforcements come from?

Why should a battalion or brigade S2 be concerned with targets too far away for his unit to immediately destroy? First, planning and coordination must be accomplished at every level. Division and corps staff are unable to plan every battalion's operations to win the battle. It falls to the brigade or battalion staffs to devise and plan methods of attacking critical nodes. Furthermore, what may be a critical target to a battalion may not be to a corps. For example, attacking and destroying an enemy anti-tank battery or section is vital to an armor battalion S2. It may not be important for the divisional G2 to address; not because of malice, but because the G2 is providing intelligence of a general nature applicable to all units. It is the S2's job to request specific intelligence from the G2 to fill the gaps in his own knowledge.

While planning the attack, the S2 has a key responsibility to analyze and report what is happening on the battlefield. This reporting must be done in a timely and coherent manner. Nothing is worse than old intelligence or improperly processed intelligence except no intelligence at all. Good, current intelligence is mandatory for future planning, and it is an area S2's at lower levels fail first. Intelligence does not magically appear from higher headquarters. It is put together in great part by reports from units in contact.

Finally, AirLand Battle differs from the old doctrine in risk taking. Risk taking in battle is encouraged. This will affect the S2 in that his commander may go ahead with plans for a deep attack despite gaps in his intelligence. It is also a risk to advise the S3 on the best way to reach an objective, and what he should shoot at to decisively affect the battle. The risk is magnified when the S2 has an incomplete picture of what is happening in the battle. There are two ways of reducing risks for the S2. First, do intelligence preparation of the battlefield before the battle starts, or, if possible, before the war starts. Secondly, fill intelligence gaps by making higher headquarters work for you. Aggressively request intelligence support from higher headquarters, from SIGINT or HUMINT assets. (In your requests, be as specific as possible.) Use the most valuable tool an S2 can have—common sense. Do not fall into the trap of saying what the commander wants to hear (or your perception thereof). Be honest; also be prepared to back up what you say with facts, or at least, logical analysis.

AirLand Battle calls for greater and more detailed analysis of what the enemy is doing, and what he will do. For the first time, the tactical collection system (through organic CEWI battalions) can support and fill many of the intelligence gaps in S2 knowledge. Furthermore, there is a trend to integrate strategic level intelligence to the tactical commanders that need it. The information is there for the asking; the Army doctrine we now use demands that we ask for it during peace, not war. The AirLand Battle doctrine also makes demands on the brigade and battalion S2's. First, detailed and accurate intelligence planning for the battlefield; and secondly, thoughtful and timely intelligence analysis and reporting during the battle.

AirLand Battle applies mainly to the conduct and operations of a future war: not the type of war where the U.S. will return an enemy to an old DMZ, or back over a frontier, but a war in which U.S. forces can expect to fight and win. To accomplish this, today's S2 must prepare and plan. By thinking today, the S2 can assist in winning tomorrow's war. □

No man ever won a war by holding his position.

— General Patton

AirLand Battle applies mainly to the conduct and operations of a future war . . .

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Delta Company Field Training Exercise

by Sp4 Mary R. Ker

"A year ago I never expected to be sleeping in the snow," said Pvt. 1 Julie Lassiter after she and the rest of Delta Company, 1st Battalion, School Brigade, U.S. Army Intelligence School Fort Devens spent Jan. 21 through Jan. 23 on a field training exercise.

The three-day exercise fulfilled a TRADOC directive to train students at service schools in basic soldiering skills. While the requirement was met, soldiers also experienced cold weather operations and were briefed on the TRAILBLAZER system in a tactical environment.

According to 1st Lt. John K. Sajevic, D Company commander, preparation for the FTX began in December, "The purpose of going to the field was to provide an environment in which a soldier could be trained and tested in common soldier skills that are needed in the field."

Training began months before the actual FTX was underway. Sajevic said, "In October soldiers were given five cold weather courses that included how to dress in layers, and how to recognize and treat frostbite."

"The overriding concern we had was for the safety of the soldiers," he added. "We planned for the worse possible weather conditions. We emphasized and re-emphasized the dangers of frostbite."

Beginning in December, supplies, clothing and other essentials required for going to the field were collected.

Jan. 21, 170 soldiers and cadre members made a one and one-half mile march to Fort Devens Training Area Two located outside the Verbeck gate.

By that night two general purpose tents heated by pot belly stoves, and many two-man tents, with only candles to warm them in the 20 to 30 degree weather, were set up and the FTX for D Company was underway.

The second day of the exercise, 15 common soldiering skills were tested, among them, installing and firing an M18A1 Claymore mine; loading, reducing stoppage, and clearing an M60 machinegun; and map reading.

According to Sajevic, the company needs further training with the M60 machinegun, and in reacting to chemical biological and nuclear hazards. For many of the students, the FTX was the first time since basic training that they were exposed to a field environment. Sajevic explained that one reason to have an FTX, is to help identify deficient areas.

"The key to any training is the platoon sergeant. This was the first time that some of the students had received training in certain skills. The platoon sergeants had to spend a lot of extra time giving additional training," Sajevic said.

"Student NCOs served as squad leaders and trainers for all the skills tested. The exercise would not have been successful without the cooperation and hard work of the student NCOs," he added.

That evening, after everyone was fed, a perimeter defense was set up. "Delta Force," led by SFC Cliff Shafer, acted as aggressors against the company of students.

During the aggressor attack, noise and light discipline were maintained. Movement and maneuver of troops, and challenge and password were practiced. "I feel the aggressor attack was good for morale," Sajevic added. "The students were able to put their skills to good use."

The final day of the FTX the students were divided into groups to see and hear about the TRAILBLAZER system and winter shelters.

The TRAILBLAZER is a tactical system used by manual Morse Code operators (05H), directional finders (05D) and electronic warfare system repairers (33S). This was the first opportunity for many of the students to see the TRAILBLAZER.

"If any of these soldiers are sent to a tactical assignment they will have to work in the TRAILBLAZER," Sajevic said.

Three winter shelters were set up and explained to the soldiers; techniques for camouflaging in a winter environment were also explained before D Company headed back to their company area.

In a final analysis of the FTX, Sajevic said, "During Advanced Individual Training, TRADOC says we must train students not only in their military occupational specialty, but also as soldiers. An FTX is a good way to do that."

"An FTX is not only good for soldiers but is also an outstanding learning experience for junior NCOs and junior officers. It gives them the opportunity to think through responsibilities that are involved with an operation of this magnitude. Training doesn't stop with the student," Sajevic concluded. □

Delta Force from D Co., 1st Bn., USAISD acted as aggressors during the night and trainers during the day during a recent Field Training Exercise.

Soldiers from D Co., 1st Bn., USAISD learned about TRAILBLAZER during a recent Field Training Exercise. (U.S. Army Photos by Sp4 Mary R. Ker)

EW for the AirLand Battle

by Capt. Frederick T. Curry

Since the adoption by the Army of the AirLand Battle doctrine, the use of electronic warfare on the modern battlefield has steadily gained recognition as an important element of combat power. The AirLand Battle relies on the ability of division and higher commanders to "see deep and strike deep." This is a role that EW fits perfectly. EW has the capability to allow the commander to see the second and follow-on echelons of the enemy force and it also gives the commander a weapon to deceive and/or disrupt those enemy forces before they can influence the battle.

In its broadest sense, electronic warfare is all actions and counter-actions in the electro-magnetic spectrum which can include such areas as lasers and surveillance radars. However, when the Army talks about electronic warfare, it usually means those actions and counter-actions that impact upon friendly or enemy communications and noncommunications. Traditionally electronic warfare is divided into electronic countermeasures, electronic counter-countermeasures, and electronic warfare support measures.

EW is not, as some people believe, just the offensive use of jamming in support of friendly operations. Jamming is the obvious active element of electronic countermeasures, but it is not the only element of electronic warfare that can play a vital role on the AirLand Battlefield. EW can be used as a member of a combined arms operation to protect friendly communications, deceive the enemy, locate enemy electronic jammers and emitters, intercept enemy communications, and to complicate the enemy's command and control communications at decisive junctions of the battle. It can also prevent the commitment of reserve forces, reduce the effectiveness of enemy fire support, deny the use of enemy air defense nets, and disrupt the flow of enemy food, ammunition, or POL. All elements of EW will have to be used for our forces to be successful.

Electronic warfare has been in the arsenal of weapons that a commander can use since World War II. Originally EW was a Signal Corps function, but in the 1950s the responsibility for EW was transferred to the Army Security Agency. EW remained a sideshow to attract interest on major exercises, but it was not until the "Yom Kippur" War of 1973, when the Soviet concept of EW, Radio Electronic Combat, was employed, that commanders and planners began to take notice. The realization of Threat capabilities and how EW can dramatically influence the outcome of ground force combat operations prompted analysis of the U.S. capabilities in EW. Still, EW was listed as an important consideration for commanders. But there was no doctrine on "how to fully integrate EW into operations." The AirLand Battle doctrine is the first time the U.S. Army has attempted to include EW into each type of operation its conventional forces will conduct.

Much has been written about the commander's areas of influence and area of interest in the AirLand Battle. In the area of influence, commanders want to locate and monitor units that can affect their current operations and fight those elements when necessary with organic and/or supporting lethal or non-lethal means. The units in the area of influence are those which can affect friendly operations in the near future. The commander usually depends on higher and adjacent commands for information on forces in the area of influence. In other words, one can somewhat equate combat information to the area of influence because this is information that is readily exploitable, has a near real time delivery to the user, and it can be used immediately for tactical execution, targeting and maneuvering. On the other hand, intelligence usually is all-source/complex information that requires more detailed analysis; has a slower delivery time to the user, and is used for planning movement and concentration, or long-range targeting and is usually received from higher headquarters. Thus intelligence could be equated to information on a commander's area of interest. However, what is intelligence to one level may be combat information at another level if that headquarters has the capability to immediately influence that action. Within the realm of electronic warfare, ESM is supposed to relate to combat information. It is that information derived from intercept and direction-finding which can be readily used for target acquisition data for jamming, electronic deception or destruction. ESM must be timely; combat information that is too slow to process in fact becomes SIGINT at best and more likely historical data. Besides making ESM the vital supporting element of EW it becomes an important input to command, control and communications countermeasures.

C^3CM is the portion of the AirLand Battle doctrine that uses all friendly lethal and non-lethal means to disrupt the enemy's command and control system. It must receive intelligence support in order to have the data necessary to target the C^3 links. The ECM part of EW is one of the non-lethal means of attack under C^3CM. It is not the only means of attacking the enemy's C^3 system. C^3CM and EW are not synonomous; EW is an important sub-element of C^3CM, but it also can be used against more than just the enemy's C^3 system.

Within the AirLand Battle doctrine, I have mentioned lethal and non-lethal means of attack. Electronic warfare as a primary non-lethal weapon becomes extremely important. With high-costs of material expenditures in modern conventional warfare, an attack system that can be used over and over again is an economical alternative. An EW jammer does not expend more than fuel and equipment wear and tear when it conducts a non-lethal mission (provided the jammer isn't blown away by enemy artillery). Commanders must plan for the use

of jamming in much the same way as artillery. Jamming is dependent upon inputs from both intelligence and ESM much as the artillery needs intelligence support as well as information from its own targets acquisition assets. However, there is a danger in a direct comparison of EW jamming to artillery: jamming does not leave a direct body count. For that reason, EW jamming must be used in conjunction with other combat elements. For example, there are certain electronic nets that have a high value to the enemy but little or no intelligence value, such as fire direction nets. These nets should be either jammed or destroyed. Other nets pass information of intelligence value and should be identified and monitored. Still other electronic emitters, like jammers or radars, are hard to jam and pass little intelligence. These systems should be destroyed. EW operators must be trained, and backed by unit SOPs, to make on the spot decisions to execute applicable EW actions; otherwise key moments may go by while the "system" decides what to do. The commander must integrate EW into his plans to effectively use all his assets especially when a non-lethal system can adequately replace a lethal one.

Although the commander is supposed to be able to "see deep, strike deep" in the AirLand Battle, U.S. Army ground based assets do not meet the commander's needs at all echelons. The biggest gap appears to be at division level where the commander needs to influence the action out to approximately 70 kilometers. Unfortunately, currently deployed ground based EW systems are limited to line of sight range beyond the forward line of our troops. This problem should not be a specific indictment of EW systems because the other attack systems available to the division commander such as artillery cannot reach any farther either. This is where the air element of the AirLand Battle is so important. The division commander must depend on air assets, either Army or Air Force, to attack deep as well as see deep. The commander must plan for air support in electronic warfare, ESM and communications/noncommunications jamming, much as he would plan for air strikes and air reconnaissance.

An important element of EW that has not been mentioned in the AirLand Battle is the protection of our own communications electronics. In fact, this is the first priority of our EW system. Communications electronics protection is achieved through the use of ECCM which are the passive measures that we take to prevent the enemy from exploiting our emitters and nets. ESM also plays a large role in the protection of our systems by identifying and direction finding enemy jammers or intelligence nets that can exploit our systems. These enemy elements then become targets that can be passed to fire support coordination for destruction. A third protective use of EW is through electronic deception. Timely use of electronic deception can mask our capabilities and intentions as well as protect important friendly emissions by tying up enemy EW assets.

In summary, EW plays an important role in the AirLand Battle concept under which the U.S. Army will fight for the near future. The commander is responsible for integrating EW into all phases of operations. EW can be used to disrupt enemy communications-electronics and cause delays and disorganization in the command and control structure by non-lethal measures. EW can also provide information that can be used for active EW (jamming) or as targeting data for lethal attacks. Further, EW can be used to protect friendly communications-electronics through the judicious use of passive counter-countermeasures, by the identification and location enemy EW threats which can be destroyed, and also through the use of electronic deception. While the commander must plan for EW, it is up to the people who execute these EW plans to make the system an effective partner in the combined arms team on the AirLand Battlefield.

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Professional Reader

Change and the Muslim World edited by Philip H. Stoddard, David C. Cathell, and Margaret W. Sullivan, Syracuse University Press, 1981, 187 pages, $9.95 paperback.

For anyone desiring insight into the world of Islam, the religion, and the way of life for millions of people who are Muslims, this short, highly-readable collection of essays is a handy deskside reference.

In 17 essays, written both by Muslims and non-Muslims, the student of non-Western cultures will receive various insights to the historical, cultural, and political in a number of countries which either are Islamatic nations or who have large minority populations of Muslims. After reading this text, one will be able to clearly see that there are divisions and problems within the Islamatic philosophy. Various factions have differing political and religious goals.

The book is divided up into three parts: Part I being "Modernization and Tradition;" Part II being "Muslim Communities in Non-Muslim Countries;" and Part III being "Cultural Diversity and Religious Unity." For the 700 to 800 million Muslims of the world for which Islam is more than just a religion, but also a way of life in some 60 countries, these essays reveal significant facts. Key chapters are "Iran: The 'Islamatic Cultural Revolution'" by Rouhollah K. Ramazani; "Egypt: Islam and Social Change" by John Waterby; and "Pakistan, Islam, and the Politics of Muslim Unrest" by Morvahid H. Shah.

This collection of essays is a cultural eye-opener to how a religion can also be a cultural way of life, and therefore have an influence on a nation's military structure.

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THINKING OUTLOUD ABOUT "PROFESSIONALISM"

The views expressed in this article are those of the author and not necessarily those of the Intelligence Center and School.

by Maj. James W. Rainey

"Professionalism" is a word often bandied about among members of the Military Intelligence Branch. As one of the youngest branches of the Army, we continually are reminding ourselves that we must be "professional" if we are to become respected members of the Army community. I have been hearing this drumbeat for the 13 years that I have been an MI officer. After so long, I think it is time that we ask ourselves what form of behavior we must display that will either earn for us the respect of the rest of the Army (if we truly are "unprofessional") or permit us to cast off our own inferiority complex. We would not need to keep reminding ourselves to "be professional" if the Army saw us as such already or if we believed that we truly had reached the Holy Grail of "professionalism."

What is a "professional?"

What is a "professional?" I suppose one could delve deeply into the works of the social scientists to find a definition that would stand the test of intellectual scrutiny. And I suppose one could turn to the model elucidated by Samuel Huntington in his 1957 seminal work, **The Soldier and the State,** in which he identifies the characteristics of professionalism as expertise, corporateness, and responsibility.[1] But in my own simple way, I would define a professional as one who has studied and fully understands the purpose, methods, and impact of his field, and who is effective in satisfying the needs of those who require his services. The MI officer, NCO, or soldier is a professional in peacetime, then, if he plans for, collects, processes, and distributes the intelligence that is crucial to our decision makers on whose shoulders is borne the awesome responsibility of acting in the national interest. We also are professionals in peacetime if we have prepared ourselves effectively to perform our wartime functions. And what is our wartime mission? It is, purely and essentially, to provide our commanders with the military intelligence that they require for the successful accomplishment of the task of the combat arms, which is the destruction of the enemy with as little cost as possible to American soldiers.

. . .a professional as one who has studied and fully understands the purpose, methods, and impact on his field, and who is effective in satisfying the needs of those who require his services.

. . .what is our wartime mission?

This issue of the professionalism of the MI branch has been the topic of several letters and articles in recent editions of **Military Intelligence.** The first of these was the paranoic response in the April-June 1982 edition of **Military Intelligence** of several MI officers and NCOs to "The Ballad of the MI Soldier," which appeared in the previous edition of our magazine. This worthless ditty, these critics argued, besmirched the professionalism, dignity, and patriotism of MI "professionals."[2]

Despite the questionable ability of these letter writers to speak for the entire MI community, I found their comments to be both trite and disturbing. First of all, what is so wrong about poking fun at oneself, either

. . .what is so wrong about poking fun at oneself. . . .

individually or collectively. This was the intent, I believe, of the "Ballad" and of the editor's decision to run it. What manner of human beings are we if we cannot laugh at ourselves? Whether accurate or not, humor serves an important function in life; it permits a lessening of tensions. Tension is disease that can inflict upon us a paralysis of the mind, an inability to think clearly and imaginatively and with intellectual honesty. These are mental qualities that we in MI must possess, for without them we cannot function and cannot be professional. If a little humor can help us maintain our crucial mental faculties, then I for one am all for it.

My second reaction to the critics of the "Ballad" was to say, "Methinks they doth protesteth too much." The "Ballad" perhaps hit a nerve, touched more than a grain of truth. Sensitive to criticisms of MI Branch that seem to indict us for "unprofessional" behavior, these critics reacted. Or perhaps overreacted! A glib response to these critics would be to ask them why a fondness for cold beer and airconditioners, or the use of grease pencils, is "unprofessional."

But the issue is deeper than that. Critics of the "Ballad" might argue that it reinforces stereotypes. And maybe it does. Stereotypes more often than not, however, begin with an element of truth. The truth remains but becomes hidden within mythology of oversimplified perceptions. What is the "truth" within "The Ballad of the MI Soldier?"

It is not that we are slovenly beer- or cocktail-drinking shirkers and cowards. We all have seen enough brave and patriotic MI officers, NCOs, and soldiers to deny such beliefs when they are voiced. Such images of MI do not deserve the dignity of a reply, let alone a paranoid knee-jerk defense of the "professionalism" of our branch.

The "Ballad" does characterize accurately one aspect of our collective behavior, and a trait of which I am proud, I must say. If the "Ballad" is a commentary upon our uniqueness as intelligence operatives, then I contend that it speaks the truth. We do seem to display at times a uniqueness of behavior, but this perception is created because the service that we in intelligence perform seems so intensely out of character in this conservative, conformist institution called an army, of which we are a part.

I think that sometimes we in MI and others in the Army forget that to be effective we must think more like the enemy than like Americans. We must perceive problems not as Americans would assess them, but as non-Americans would, and at times irrational non-Americans to boot. The consequences of not conducting collection, analysis, and counterintelligence accordingly are enormous. The Allies in December 1944 suffered a near-catastrophic reverse in the Ardennes because they simply believed that the rational German General Staff would never be so bold as to risk a major counteroffensive. The trouble was, and Ike's "professional" advisers missed it, that military decisions in Germany in the winter of 1944 were being made by the highly irrational mind of Adolph Hitler. Ike's analytical apparatus made the crucial error of trying to assess German intentions by subconsciously assuming that the Germans would act as logical Americans would act in similar circumstances.[3]

. . .a little humor can help us maintain our crucial mental faculties, . . .

Warfare is both an art, the expression of human creativity, and a science, the conduct of activities based upon established laws.

Stereotypes more often than not, however, begin with an element of truth.

We learned from this mistake, to the degree that now we in this business of intelligence place tremendous intellectual demands upon ourselves and our subordinates to "think like the enemy." This results in the best analysis for the commander, but it also results in the perception that MI is "not professional" since we often do not act like American soldiers. Of course we don't; how can we always when, to be effective we must immerse ourselves in the language, culture, thought patterns, even clothing and equipment (witness the OPFOR program) of the "enemy." We cannot be "professional" if we do otherwise, at least "professional" as I define the term. If one defines a professional as one who conforms to conservative, accepted patterns of behavior, then, yes, MI is unprofessional. But we also will be ineffective.

Let's recognize ourselves for what we are and stop fighting a problem that does not exist. We in MI are different because we must be. Our business demands it. Winston Churchill wrote that great commanders require "not only massive commonsense and reasoning power, not only imagination, but also an element of legerdemain, an original and sinister touch, which leaves the enemy puzzled as well as beaten."[4] As with no other branch of the Army, we in MI must display those same traits.

This is not to say that there must be no method to our madness, that we in MI should be permitted to do our individual "things." On the contrary, for this would lead to uncontrolled chaos. We must be bound by certain doctrinal parameters, particularly as we perform our more routine and mechanical functions. Such patterned behavior will thereby free us to exercise our imaginations for the purpose of accomplishing the more complex and sensitive intelligence tasks assigned to us. Of course, these doctrinal parameters must be the product of the best thinking of the MI community, and they must be accepted and employed by all of us. This brings me to the second item in the April-June 1982 **Military Intelligence** to which I wish to address myself.

"Hey, Deuce, What Does This Mean?" was an excellent article by Maj. S. Dan Johnston that discussed a method for portraying situational information in a TOC.[5] I have no criticism with what Johnston proposes; in fact, I find his suggestions to be an excellent solution to a problem that is the bane of every tactical intelligence officer.

No, my quarrel is not with what Johnston said, but rather with the fact that it had to be said at all. I find it more than a little embarrassing and shameful that after 20 years as a branch we are still fuddling around trying to find a way to post maps. If

we are so "professional" why was Dan's article necessary?

It was necessary because, despite all of our breast beating about our professionalism, we have not concerned ourselves with developing excellent doctrinal methods for perfoming even the most basic tasks of our trade. Worse yet, where we have developed sound methods of operating, we have done next to nothing to institutionalize these methods branch-wide. One needs only to examine the *modus operandi* of several S2s within the same division or to observe the workings of several divisional G2 sections, and he will find just as many different systems in operation. In that search one will probably come across a 2-shop that is head-and-shoulders above the rest. But what have we as a branch done to institutionalize that excellence?

The Assistant Chief of Staff for Intelligence, Maj. Gen. William E. Odom, spoke directly to this point in his "ACSI Viewpoint" column in the July-September 1982 issue of **Military Intelligence.** I quote:

> "In my initial visits to units in FORSCOM, USAREUR, and Korea, it became clear to me that we are indeed lacking formal statements—i.e., FMs—of tactical intelligence doctrine. Many issues of doctrine seemed contentious. Lacking the umbrella guidance that FMs provide, many thoughtfull and professionally able colonels and lieutenant colonels properly set about developing their own answers to questions of how to organize all-source intelligence centers, how to employ collectors, and how to support EW and OPSEC. Diversity in solutions was bound to develop."[5]

And who is to blame for this chaotic state of affairs? We all are, collectively, as a branch. Is this collective professional behavior? Not hardly!

Returning to the issue of TOC configuration, there are those who will argue that S2s and G2s do not possess the authority or freedom of action to do what Johnston suggests. I disagree. As I understand the process of doctrinal development, the Intelligence Center studies an intelligence related problem, develops and tests solutions, and recommends procedural changes that will permit the more effective conduct of intelligence operations. Training and Doctrine Command approves the recommendations, enters them into a Field Manual, ARTEP Manual, or other binding doctrinal publication, and we in the field have our marching orders. As established doctrine, compliance with these procedures is subject to monitoring and examination during the ARTEP evaluation and IG inspection processes.

An S2 or G2, then, will be armed with such doctrinal authority when he is confronted by an obstinate commander or S3/G3 who think they know the intelligence business better than the MI staff officer. The "2" will be able to give his commander the best possible professional advice, because such recommendations will be based upon doctrinal guidelines that have been developed and tested by the best minds in the branch, approved by Commanding General, TRADOC, and accepted by the Army at large.

Standardization of intelligence operating procedures as doctrine that is accepted and practiced by all in MI is crucial to our ability to be effective on the modern battlefield. The Army is undergoing two fundamental changes that will place greater demands than ever before on the conduct of intelligence personnel engaged in the field of combat intelligence.

First, we are in transition to a regimental system for the combat arms that eventually will result in the rotation of whole units, probably up to battalion size, between stateside and OCONUS locations. Consider the turmoil for the battalion S2 who has been operating under locally mandated intelligence "doctrine" in CONUS when he finds that his new brigade S2 or division G2 employs an entirely different system. The battalion S2 will have to adjust, of course, but American soldiers may die in the interim for lack of intelligence. As a branch, do we want that on our professional conscience?

Of more momentous consequence is the Army's transition to a combat doctrine that empahsizes maneuver and the fluid battlefield versus our traditional firepower-attrition style of warfare. This new doctrine, encapsulated in the latest version of FM 100-5, Operations, stresses the use of the tactical offensive and allows commanders great latitude in exercising the initiative. U.S. Army combat leaders will be expected to rapidly shift "mental and operational gears" in changing from one form of offensive operations to another.

There will not be time for staff conferences *ad nauseam* or minutely detailed operations orders in this style of warfare. How then will we impose order in a situation that seems to have a built-in tendency for chaos? Doctrine—the acceptance and practice thereof—will be the solution, and intelligence doctrine will be no less crucial than that of other branches.

Consider the potential for disaster in this hypothetical combat situation. A corps commander has his divisions moving to contact and expects to mount a deliberate attack on enemy positions at objective X. His corps and division G2s have geared their intelligence efforts to support this operation, and intelligence assets are collecting information against the EEI that commanders need answered that are peculiar to this category of offensive operation. Suddenly it appears that the enemy is abandoning his positions and the corps commander orders his divisions to mount a pursuit.

. . ."not only massive commonsense and reasoning power, not only imagination, but also an element of legerdemain, an original and sinister touch, which leaves the enemy puzzled as well as beaten."[4]

. . .after 20 years as a branch we are still fuddling around trying to find a way to post maps. If we are so "professional" why was Dan's article necessary?

. . .we in MI and others in the Army forget that to be effective we must think more like the enemy than like Americans.

. . .the Intelligence Center studies an intelligence related problem, develops and tests solutions, and recommends procedural changes that will permit the more effective conduct of intelligence operations.

Now this is an entirely different category of offensive operation. Commanders will have different EEI that must be answered. These EEI must be recognized and developed, and collection and analysis assets must be retargeted accordingly—and quickly—under the new style of warfare that we will employ. Perhaps the most crucial issue that must be determined in this situation is whether the enemy's perceived withdrawal is actual or feigned. If the former is the case, then the pursuit likely will be successful and, at any case, less risky. But if the enemy's withdrawal is feigned, if it is a deception operation that is not detected, the corps or a major part of it will be heading into a trap in which many American lives will be lost. If the corps and division G2 sections have not developed common and habitual intelligence operational procedures—if they do not have and have not practiced doctrinal methods for dealing with such a contingency—the resultant disaster will be on the conscience of the MI branch. Such negligence hardly will be characteristic of professionalism.

There have been military forces in history that have been successful at mobile warfare, but the army whose success comes most readily to mind is the German military machine of the Franco- and Austro-Prussian wars of 1866 and 1870 and the German Army of World War II. The historian Trevor Dupuy, in his 1977 Book **A Genius for War: The German Army and General Staff, 1807-1945,** argues that the key ingredient of German qualitative superiority displayed by these formations was the Germans institutionalization of doctrinal excellence. Dupuy writes:

> "Moltke's corps and division commanders were soldiers so dedicated to military excellence that sound performance in accordance with sound principles and doctrines had become second nature, and Moltke could rely on this, wherever he himself might be. This assured kind of performance marked what is probably the most significant distinction between the German armies of the two world wars on one hand and their opponents on the other. The Germans had no monopoly on an understanding of military theory, or an ability to analyze operational experience. Nor did they have a monopoly on military competence. But what they did have was a monopoly on consistently reliable and excellent performance throughout the army in accordance with doctrine and theory."[8]

My stress on routinization of procedures at a time when our Army is moving to a flexible style of warfare may seem to be a contradiction. It is not! Warfare is both an art, the expression of human creativity, and a science, the conduct of activities based upon established laws. The more we can habitualize the scientific aspects of warfare until they become settled and accepted patterns of activity, the more we will be free as military professionals to exercise our creativity and mental agility in warfare against opponents whose numbers may demand that we maximize the use of all of the weapons—to include our minds—at our disposal.

We as a branch cannot adopt the mantle of professionalism unless we intend to act collectively as professionals who are dedicated to finding, adopting institutionally, and employing the most effective intelligence procedures. American soldiers demand this of us, and their lives will depend upon it.

FOOTNOTES

1. Samuel P. Huntington, **The Soldier and the State** (New York: Vintage Books, 1957), pp. 7-18.
2. "Feedback" (**Military Intelligence,** April-June 1982), p. 54.
3. S.L.A. Marshall, "What Men Did There" (NY Times Book Review, 9 October 1966), p. 22.
4. Quoted in William Stevenson, **A Man Called Intrepid** (NY: Harcourt Brace Jovanovich, 1976), p. 305.
5. Maj. S. Dan Johnston, "Hey Deuce, What Does This Mean" (**Military Intelligence,** April-June 1982), pp. 20-23.
6. Maj. Gen., William E. Odom, "ACSI Viewpoint" (**Military Intelligence,** July-September 1982), p. 3.
7. For an excellent overview of the implications of the new doctrine, see Lt. Col. Huba Wass de Czege and Lt. Col. L.D. Holder, "The New FM 100-5" (**Military Review,** LXII no. 7, July 1982).
8. T.N. Dupuy, **A Genius for War: The German Army and General Staff, 1807-1945** (Englewood Cliffs, N.J.: Prentice-Hall, 1977), p. 302.

Maj. James W. Rainey was commissioned in MI in 1969. He holds a BS in Journalism and an MA in Military History. Rainey has served with the 116th MI Group; Combined Military Interrogation Center, Vietnam; ODCSINT, USARPAC; G2, XVIII Airborne Corps; and as Commanding Officer, Company A (Interrogation), 519th MI Battalion. Rainey is currently assigned to the Department of History, United States Military Academy, where he teaches courses in the evolution of the art of warfare and the history of the Arab-Israeli Wars.

CRYPTOCORNER

by Walter B. Howe

Pattern words - words with repeated letters - usually make cryptograms easier to solve. The first cryptogram is full of pattern words, but you may not find it as easy as it looks. The second one has a different kind of pattern. Every word begins with the same letter. Both cryptograms are enciphered by the same letter sequences, but at a different alignment.

OAYB YAGRQNQMSXH URCD XSMAFSN DAGRQRLUH LUHULMIYW JCXHN XLMQMAIGC. SDHDFUADG YCDNBLD OADIN LSQSBD JAXQSMCN MSADCI.

AIKY AXEJUZ AHWXKZBY ATEKWXB AXEU AE AZE AXHEKUT, ADEBZ ALNKTF AQUTF AFBTE ATY AZSBY AKYB.

GOOD SOLVING!

Answer on page 38

Electromagnetic Pulse

by Capt. Peter C. Paras

One tends to think of the effects of a nuclear detonation in terms of blast, thermal radiation, and nuclear radiation. However, the one effect which may be most critical to the U.S. Army in the field is the electromagnetic pulse. Commanders, tacticians, and analysts at all levels must have a clear understanding of EMP if the Army is to function effectively prior to or during nuclear warfare. Many misconceptions about EMP seem to be floating about in the Army community, e.g., EMP will wipe out all communications no matter what we do; or our lightning protection will aid against EMP. The purpose of this article is to present EMP for what it is and what it is not, with a minimum of technical details. The EMP is critical because of its unique properties and effects:

- It does not affect people, just equipment; in particular command, control and communications equipment and electrical/electronics systems.
- EMP has a large killing range-hundreds or thousands of kilometers from a high altitude nuclear burst, and tens of kilometers from a surface burst.
- EMP is capable of causing disruption or damage to electronics from a nuclear burst at distances where other weapons effects such as nuclear radiation, blast, and thermal radiation effects are not important as damage mechanisms.
- Modernized C^3 is feeding the Threat. EMP affects electronics, the most susceptible being the complex systems using semi-conductor technology. The Army's increasing dependence on sophisticated command, control and communications systems enhances the EMP threat proportionally. The magnitude of the EMP threat is best visualized by comparing it to other electromagnetic phenomena. Table 1 lists several electromagnetic energy requirements.

Table 1 - Electromagnetic Energy Comparison

Power/Energy Source	Power Density-Watts Sq/Meter
Typical Radio Receiver	0.001
Typical Radio Transmitter	100
Directional Pulse Radar	1,000
EMP	1,000,000

The complete quantification of the EMP threat and its impact on doctrine and tactics is not on hand at the present time. However, EMP threat is manageable and enough scientific and engineering knowledge is currently available to attack the vulnerability and survivability of C^3 systems to EMP. This article provides a survey of the EMP situation. This is important to a commander because EMP could cause a breakdown in his communications systems at a critical time.

EMP is a broad based bandwidth of electromagnetic pulse of short duration produced by the interaction of nuclear radiation from a nuclear burst with the atmosphere, or with the atmosphere and the earth's surface. The EMP effects of nuclear bursts were first predicted in 1945 by Enrico Fermi and were confirmed by nuclear testing in the 1950's. However, prior to the atmospheric test ban treaty in 1962, no significant interest was shown in learning more about this electromagnetic radiation; its importance was generally ignored. Since the early 1960's, EMP has gained importance and is now recognized as an important nuclear weapon threat. Because of the increased susceptibility of electronic systems due to the widespread use of semiconductor devices, EMP became increasingly important.

EMP is a time varying electromagnetic radiation which increases very rapidly to a peak and then decays somewhat more slowly. The radiation has a very broad spectrum of frequencies and the wave amplitude of the radiation varies widely over that frequency range. Specific quantitative values of EMP are extremely difficult to predict because of the complexity of EMP generation. Accordingly, only qualitative descriptions of EMP characteristics and representative magnitudes are provided in this discussion.

Examination of the EMP spectrum reveals an extremely broadband signal ranging from power line frequencies of 60 hertz to four gigahertz. The spectral components of the EMP occupy the same frequencies as do military communication systems. The field strength can approach 100,000 volts per meter. To place this figure in perspective, consider that a radar beam of sufficient power to cause biological damage has a strength of less than 100 volts per meter. A transmitted radio signal from a 50,000 watt commercial station has a field strength in close proximity to the antenna of only 1 volt per meter. Examination of available data indicates that a typical voltage waveform for EMP has a field strength of 1,000,000 volts per meter, a rise time of 10 nanoseconds (10 times faster than that of lightning), and a duration on the order of one microsecond.

One is tempted to think of the electromagnetic aspect of EMP in terms of lightning. Although the simile of being electromagnetic in nature is valid, they should be handled as two separate phenomena, and both require separate protective measures. EMP is best considered at its beginning, i.e., the interaction of nuclear radiation from a nuclear burst with the atmosphere. Nuclear radiation consists of gamma rays, X-rays, and neutrons which emanate from the point of origin. Gamma rays are the dominant source of radiation which leads to the production of the EMP, and the

EMP results from a nuclear detonation at any altitude from subsurface to exoatmospheric. A nuclear burst at any altitude produces two kinds of electromagnetic fields in two different regions: the source field region or volume, and a radiated field. One can think of this in terms of a super large antenna; antennas have strong electromagnetic fields within and radiate an electromagnetic field. The EMP source region is physically defined by the volume of atmosphere in which the gamma ray interactions take place with air molecules. This produces strong electric currents and just as in an antenna, if the currents are produced asymmetrically, a radiated field is created. The radiated energy propagates away from the source and is called EMP. The strength and area coverage of both types of EMP depend on height of burst and yield of the weapon. Table 2 summarizes the strength and area coverage of the source and radiated fields, from different heights of burst. These strengths are what a land based Army system would experience. Note that the source region in some height of bursts cases is low strength or has no effect. This occurs only because the source region is not touching or connected with the ground so its effect on land based systems can be neglected. The same applies to weak radiated fields.

The area coverage of the EMP on the ground is also critical; an area of tens of thousands of square kilometers resulting from the exoatmospheric burst, and tens of kilometers from the surface/near surface burst.

Before discussing the effects of EMP on equipment, it is necessary to understand the composition of EMP. As stated in the definition, EMP is broadband or, composed of a wide range of frequencies. An analogy may help to provide insight into the frequency composition of EMP: Consider a large number of high power radar and radio transmitters, no two operating at the same frequency, all turned on to full power at time zero and turned off a few microseconds later. The result would be a block of electromagnetic energy several microseconds in duration composed of many frequencies. Each frequency would have a considerable amount of electromagnetic energy associated with it. This characterizes EMP; a high energy pulse of energy composed of a broadband of frequencies. Material with good electrical conduction properties, e.g. cables, wires, antennas, and metal structures, all absorb EMP energy to a varying degree. The degree of absorption depends on the electrical properties, size, and shape of the material. This is similar to the design and operation of a typical Army field radio. One tunes the radio to amplify the operating frequency desired. But if the wrong antenna is used, the desired frequency may come in weak. Using the correct antenna allows a sufficient amount of the signal to be picked up or absorbed and amplified within the radio. All electrically conducting parts have this characteristic of absorbing some ranges of frequencies better than others, and to a varying degree of efficiency. The term usually used is coupling, and material which couples with electromagnetic energy may absorb a sufficient amount of energy from the EMP. This induces voltages and currents in the material, and should the material be connected with a component, device or system which is voltage or current sensitive, damage will result. Modern communications and electronics are sensitive due to the extensive use of microcircuit technology. These devices cannot normally handle the voltage and current surges that result from EMP coupling without special design considerations. EMP may couple into cables, wires, antennas, and metal enclosures which can transmit the energy to sensitive components within. Burn out of transistors, upset of digital functions, or equipment performance degradation will result. Extensive test and analysis can determine the extent of EMP energy coupling and the resultant performance degradation levels. Possible locations for design or retrofit procedures to correct the vulnerability include:

- protective devices installed in cables, wires, and antenna lead ins,
- replacement of damageable transistors by less susceptible transistors
- modification of grounding techniques
- electrically shielding the metal enclosures

It is not possible to determine what the quantitative effects of EMP on a complicated piece of communications equipment will be. However, the Army has developed a nuclear survivability program to protect critical equipment against EMP. This program requires the specification of nuclear survivability criteria and a comprehensive design, test and

Table 2 - Strength and Area Coverage of EMP on Land Systems

	Source Region Strength	Area	Radiated Str.	Area Km²
Exoatmospheric	N/A	N/A	High	1,000,000
Air	N/A	N/A	N/A	N/A
Near Surface	Low/High	10	Low	50
Surface	High	10	Low	50
Subsurface	High	1	N/A	N/A

Table 2 shows two critical cases to land systems, radiated fields from an exoatmospheric burst, and source region field from surface/near surface bursts.

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analysis program against these criteria. The Army nuclear agency specifies nuclear survivability criteria for Army equipment. The equipment development process, with respect to EMP begins with an equipment concept in a required operational capability document where the need for nuclear survivability criteria should be established. EMP survivability is then obtained by integrating EMP design, system test and analysis, redesign, and production control into the normal developmental cycle. Testing that may be required in an EMP survivability program includes testing of individual electronic components, electrical circuits, sub assemblies, end items, and full scale systems tests. The latter are performed at large EMP simulator facilities such as the Defense Nuclear Agency transportable EMP simulator. For a missile system, this would include missile and launcher, and integral command, control and communications subsystems. The total system test is required since EMP energy can be transferred back and forth through interconnecting cables and the grounding scheme. Once equipment is fielded, it must be tested to preclude designed hardening measures from being degraded in field use.

The implications of equipment nuclear survivability on the theater of operations depend on the enemy nuclear threat. If high altitude, large yield nuclear bursts are postulated, then all theater unhardened C^3 equipment will be vulnerable. This follows from the preceding discussion on high altitude burst area coverage. The impact of enemy surface nuclear bursts is subtle.

EMP field magnitudes are extremely high compared to those encountered on the battlefield resulting from the operation of radios, radars, and other electronic equipment. But the vulnerability of any system to EMP is determined by the energy collected by a critical component rather than by the field strength. Collection of EMP energy is conceptually the same as the collection of radio energy: a collector (antenna) is exposed to the fields and the energy it collects is channeled and filtered into components that respond to that energy. The primary practical differences between EMP and radio reception are that the EMP energy collector does not have to be an antenna and the energy collected may be sufficient to cause damage to a wide variety of components.

Whether a component of the system suffers damage depends upon the amount of energy delivered to it and its vulnerability to that energy. The amount collected by any system depends upon the efficiency of its collector. A collector of electromagnetic energy from the EMP would include not only those items specifically designed to be antennas but also cables, gun tubes, missiles, openings in metal inclosures, structural members, guy wires, conductor loops, railroad tracks, fences, metal sheets, and a variety of other innocent items. There is a wide difference in the susceptibility threshold levels between the various electrical and electronic components. Non-electrical equipment and personnel are inherently very hard to EMP effects. Damage will occur to such equipment only if there is contact with a large collector. Items such as motors and power switches (i.e. components that are subject to substantial power levels in normal use) are relatively immune to EMP unless a large collector injects a strong energy surge into them. On the other hand, modern electronic components that operate at very low power levels may be quite easily damaged. Two types of EMP damage may occur. The first, known as catastrophic failure is permanent. It is irreversible and would require replacement of the affected components. Examples of this type of failure include melting of conductors and the destruction of semiconductor junctions. The second type known as functional upset is temporary. Recovery or full use of the device may take from less than a second to several minutes. Examples of functional upset would be the tripping of power overload circuit breakers and the volatile memory elements of a digital computer, (the flip-flop element) flipping out of position. Although no permanent damage would have occurred, this type of upset can be serious for a system depending upon continuous operation for its effectiveness.

Even given a system containing electronic components of known susceptibilities and EMP threat level, the determination of whether the system as a whole is vulnerable is difficult to make. The best indication of a systems susceptibility is its reaction to a full scale, non-nuclear EMP simulation. Using specially designed electronic equipment, it is possible to create electromagnetic fields similar in many respects to EMP, over ground areas sufficiently large to test entire systems in their operational configuration; e.g., a tank, airplane, or air defense fire unit. Based upon component vulnerability, it is possible to rank system types according to their reaction to EMP effects. Some simple rules aid one in ranking a system's vulnerability. First, any digital computer is susceptible to functional upset. Second, the more advanced the circuitry, the more low power transistors and integrated semiconductors circuits have been used, the more sus-

Relative susceptibility to EMP of selected components, listing from most to least susceptible in terms of typical damage threshold energy

- digital computer volatile memory circuits
- microwave semiconductor diodes
- integrated circuits
- field effect transistors
- radiofrequency transistors
- low power silicon controlled rectifiers
- audio transistors
- medium/high power rectifier semiconductor diodes
- composition and wire wound resistors
- vacuum tubes
- low current switches, relays, and meters
- detonators, pyrotechnical devices, and rocket fuels
- motors and transformers

ceptible the equipment is compared to similar equipment using older circuitry such as valve technology (tubes). The more powerful a signal the equipment is designed to receive, the less susceptible it will be. And fourth, equipment having large collectors will be more likely to be damaged than similar equipment having smaller collectors.

Of course, these rules cannot account for system peculiarities including intentional design hardening which can affect system hardness and which can usually be identified only by a thorough analysis or testing. For example, testing of air defense equipment for EMP has been less than regular. Some equipment is tested and designed hard from early engineering phases. Other equipment is either not tested at all, or the EMP effect is not seriously considered in its design. The Hawk and Nike Hercules systems were apparently tested to a small degree over a decade ago when both systems claimed an EMP hardness due to vacuum tube and power transistor circuitry. Since then, both systems have evolved dramatically, particularly through the latest improvement programs which involve conversion to more integrated circuitry and digital technology. Both Chaparral and Vulcan have been tested, but neither system had EMP considered to any extent in design. The tactical radio systems used by the Army today have generally been tested.

In designing protective measures, two general tactics are used. The first is to limit the amount of energy delivered to the critical components. This would include reducing the size of the collectors of installing metal shielding, surge arrestors or filters. It would also include any alteration of circuit wiring including procedures to eliminate metal wiring in favor of optical fibers to eliminate specific vulnerabilities. The second tactic is to simply avoid the use of sensitive components.

The clearest unclassified case of EMP effects resulting from an actual nuclear blast occurred in 1962. The Starfish Prime shot of the Dominic series of nuclear tests on Sept. 7, 1962 had a yield of 1.4 megatons and a height of burst of 400 kilometers. The detonation took place over Johnson Island, about 800 miles from the Hawaiian island of Oahu. A number of civilian electrical system failures were reported there. The failures included blown fuses on strings of street lights, opened circuit breakers on power lines, and activation of hundreds of burglar alarms. The damage suffered was little more than a nuisance; however the affected items were very much hardened to EMP effects. The electronic components in use today are extremely susceptible to EMP compared to their 1962 counterparts.

The broad frequency range of EMP makes almost all currently used unhardened and unprotected communications equipment subject to EMP interference or damage. The major exception is equipment operating in the microwave region about four gigahertz where the EMP intensity diminishes rapidly. A surface or low altitude burst radiates vertically polarized EMP which rapidly decreases with distance. Considering current defensive doctrine, two appropriately placed tactical nuclear weapons could saturate a division defensive sector forward of the brigade rear boundaries. The resulting EMP would destroy all FM and HF nets as well as a major portion of the division multichannel system. If prior to the strike, enemy forces employ EMP countermeasures, they would find themselves capable of launching a well coordinated assault against individual defending units unable to coordinate with brigade or division headquarters, with each other or with supporting artillery before being overrun. Fast moving mechanized operations are extremely dependent on radio communications for command and control. Without constant communications, the success of this type of assault is extremely uncertain. Enemy final defensive fires containing tactical nuclear weapons could create just this situation. The tactical commander is faced with a massive repair and resupply problem. Additionally, command and control functions dependent on digital systems such as automatic switchboards, tactical operations systems, TACFIRE, and joint tactical information distribution systems are severely threatened because of increased EMP susceptibility of digital data systems.

Surge limiting devices are perhaps the most obvious solution to the EMP threat. Lightning arrestors, the most commonly used surge protectors, are almost useless against the EMP threat. The pulses rise extremely fast which allows destructive voltages (400 percent of the design breakdown voltage) to reach the electronic circuitry before breakover can occur. Hybrid protection consisting of gas-gap diodes and switching diodes offers a solution but their size and cost make protection of high line capacity systems unfeasible. EMP filtering is impossible due to the very wide frequency involved. Good shielding provides excellent protection, but its design is a very exacting process requiring careful attention to every detail of the system. Generally, good cabling, radio frequency interference, and electromagnetic interference design procedures will provide a very acceptable degree of EMP protection. Improved surge protection, shielding and EMP resistant technology are being employed in the design of new equipment. In the meantime, certain countermeasures are available to help the communicator protect his present equipment.

EMP countermeasures provide alternate routing capability. Every communications node should be linked by at least two different paths. If at all possible, one path should use equipment operating the SHF band. An area communications grid using microwave transmissions to interconnect all signal centers provides an acceptable alternate path. Alternate means of communication, such as air, motor, or messenger can be used until electronic communications have been reestablished. Use of wire and field phone should not be ignored. Locate

communication couples as far away as practical from priority targets, such as major headquarters. Maximize use of long locals and radio remoting, this will provide a double benefit; it lessens equipment exposed to the highest EMP and blast intensities from tactical surface bursts and reduces electronic signature of command center so as to belie its size and importance. In electronic equipment still on the drawing board, consider the use of fiber optics which are totally immune to EMP. Bury all cables to a minimum depth of three feet. Ground all equipment; equipment grounding is an extremely critical area. Improperly done, grounding provides another access point for EMP to pass through making even the best shield ineffective.

It is clear that advances in electronic circuitry used in U.S. Army weapons and electronics systems should make EMP an effect of increasing importance at all levels. The Army officer should have a feeling for the effects of EMP he would have to contend with on the nuclear AirLand battlefield, and what he can do to protect his equipment from those effects. The operator can do little to harden his equipment to EMP, but a few things may help. The equipment should be operated and maintained as specified in appropriate technical manuals, since any deviation may degrade designed protective measures. Equipment access doors should be kept shut and cables should be buried under steel and earth cover when possible. Use the shortest possible cables and disconnect them when they are not in use. Equipment should not be placed near any large collector such as long cables, fencing, or railroads. One question that is easy to answer is whether any given Army system may reasonably expect to be subjected to an EMP in a nuclear war. A single thermo-nuclear detonation at an altitude of a few hundred kilometers will blanket approximately 18,000 square miles of earth with communications blackout, and possible hundreds of square kilometers with EMP. EMP can damage or destroy any of our military electrical or electronic equipment. Any potential nuclear adversary probably would not hesitate to make full use of EMP against U.S. forces in the upcoming AirLand Battle.

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War College to have doctrinal input

Beginning in 1984, the U.S. Army War College, Carlisle Barracks, Pa., will play a more active role in the development of Army doctrine.

This action is the result of a memorandum of understanding between the Combined Arms Center at Fort Leavenworth, Kan., and the War College. The agreement establishes the War College as a source of independent, critical input to doctrine for corps level activities and echelons above corps. Its relationship with the Combined Arms Center will be similar to that of a consulting agency.

This means that while the Combined Arms Center remains the executive agency for Army concepts and doctrine, the War College will provide advice and support to meet specific doctrinal needs as requested.

According to Lt. Gen. Jack N. Merritt, commander of the Combined Arms Center and TRADOC's deputy commanding general for combined arms, the agreement represents an important improvement in the doctrine development process.

"The implementation of this memorandum of understanding will contribute significantly to the Combined Arms Center's mission by providing the Army a capability to tap additional sources of knowledge and expertise in the formulation and development of its concepts and doctrine," he said. (TRADOC News Service)

COMMO INTERGRATION OF THE SCOUT PLATOON AND GSR SECTION

by Capt. R. James Steiner

The need for effective, near-real-time information on the battlefield is critical. In the maneuver battalions, lead elements of a larger force, information on the enemy is especially critical. This article will discuss how the scout platoon, which serves as the organic "eyes and ears" of the battalion, and the normally attached GSR section from the CEWI battalion can be effectively integrated to pass near-real-time information back through the battalion.

Typically, the scout platoon and GSR section know little about what the other is doing. Even more typically, enemy sightings by one must travel back through the tactical operations center and be retransmitted forward to the other element. This causes extraneous transmissions which make enemy targeting of the TOC easier and cause operations and intelligence nets to be used more than necessary. The normal employment of communication nets within a maneuver battalion finds the scout platoon leader serving as net control of his internal net and reporting sightings over the command/operations net. This method does provide near-real-time information to be received by key leaders in the battalion such as the battalion commander, S3 and maneuver company commanders. However, this method of reporting enemy sightings causes a critical path to exist. The command net is the principle means by which reports are sent and, along with other traffic, is one that the enemy radio electronic warfare effort will be directed against. If this net is jammed, the scout platoon leader must find an alternate means to pass traffic. In a fast developing situation positioned forward of the normal wire links, the time lapse in getting the word disseminated could be critical to the proper employment of forces within the battalion.

The GSR section which is normally attached to the maneuver battalion is usually working on the surveillance net and reporting directly to the S2 section in the TOC while reporting by wire to a maneuver company if it is located in proximity to one. Sightings by the GSR section must be retransmitted to key leaders as they do not have the capability to monitor the original report on the surveillance net. If the scout platoon has not identified an enemy movement that the GSR section has, the message must be sent twice beyond the original report. One transmission will notify key leaders and the scout platoon leader and a second transmission by the scout platoon leader notifies his personnel. By the time the report has gone from GSR section to TOC to scout platoon leader to scout platoon it is neither near-real-time nor likely to be as complete as when originally sent. The same weakness exists for those sightings that the scout platoon makes that the GSR section does not target. The S2 section must retransmit the message to alert the GSR section of enemy movement and activity. Independently, the scout platoon and GSR sections can get sightings back to the TOC fairly rapidly, the lack of integration between what should be two mutually supporting systems causes these capabilities to be diminished.

In an effort to link more closely the scout platoon leader and GSR elements a variation to normal net employment was tried. This first attempt to integrate these elements was accomplished by having the scout platoon leader report enemy sightings over the surveillance net directly to the S2 section. The immediate advantage to this system is that the GSR section and scout platoon leader can monitor each other's traffic. In this manner, scout elements or GSR teams can quickly adjust according to sightings made by the other. This is especially advantageous in bringing indirect fire assets to bear on enemy positions. The scout platoon or GSR sections, by monitoring the other's sightings, could quickly confirm reports enabling effective target acquisition of indirect fire assets. The major weakness in the coupling of scout platoon leader and GSR section is that near-real-time information on enemy activity is sacrificed on the command net. Key personnel have to rely on the retransmission of reports from the TOC. Additionally, the scout platoon leader still has to retransmit GSR sightings over his internal scout platoon net to alert the rest of his platoon. In this employment of surveillance/reconnaissance assets, the surveillance net becomes even more critical as far as the flow of sightings of enemy activity. If the surveillance net is jammed under this employment, neither GSR nor the scout platoon leader are able to send reports quickly back to the TOC. While this system provides for integration and coordination between scout platoon leader and GSR section it was decided that the scout platoon leader performed a much more important role on the command net in providing near-real-time information. Additionally, the battalion commander could exercise greater command and control over the scout platoon by having the platoon leader available on the command net.

The integration established

between the scout platoon leader and GSR section proved effective in receiving and verifying enemy activity. A return to the original communication net set-up would sacrifice this relationship. Some of the advantages of having the scout platoon leader on the command net have already been addressed. The ability of the scout platoon leader to keep key leaders informed based on enemy observation was one of the most important. The main advantage of the second method was to integrate the scc 'atoon leader and GSR section. disadvantages of both methods is the critical path over which information flowed and the ability it gave the enemy to jam only a couple of nets resulting in the inability of scouts or GSR to get information back to the TOC or key personnel. What would be most effective would be to employ these assets in such a way that the advantages of both methods could be enhanced.

To keep the scout platoon leader on the command net and still allow the GSR section to be closely integrated with them, the GSR section moved to the internal scout platoon net. Doing this and having the S2 section in the TOC monitor the internal scout platoon net turned out to be the strongest system yet employed. This eliminated the need for the surveillance net altogether, thereby creating an additional spare within the battalion. Since the S2 section is more a monitoring station than an active participant on the scout platoon net, it meant that even less transmissions emanated from the TOC area. The greatest advantage of the system was the efficiency and redundancy allowed by this system. Nothing is sacrificed in the time that it takes the scout platoon leader to relay enemy sightings to key personnel via the command net. This is enhanced by the scout platoon leader's ability to simultaneously monitor sightings by his scout elements and the GSR elements that are on his internal net. Key personnel on the command net receive initial reports based on GSR sightings much quicker than under either previous system. Redundancy exists due to the fact that as the scout platoon element or GSR team makes a report of a sighting the S2 section in the TOC is able to monitor it. If the command net is being jammed, then the TOC would have the information and those elements linked by wire could be notified. It is possible to relay the information up to brigade headquarters rapidly because it is received in the TOC so quickly. Under this system the scout platoon leader maintains net control. The integration between scout platoon leader and GSR section is even stronger with the scout squads able to talk and monitor the GSR section and vice versa. The scout platoon leader is not forced to retransmit GSR sightings as the squads heard them in the initial GSR report. Rather, the scout platoon can now be quickly employed to verify the enemy activity. The same advantage exists with the GSR teams being able to rapidly concentrate their equipment in support of sightings made by the scout squads. The ability of the S2 section to monitor these reports prior to the scout platoon leader sending them over the command net allows for quick analysis of what was seen. If it is necessary to alert key personnel that the report indicated some significant enemy activity, it is sent in immediate response to the scout platoon leader transmitting his report on the command net. This allows for rapid dissemination of immediate intelligence because of the speed by which the S2 section receives the information. The battalion commander, S3 and maneuver company commanders not only receive near-real-time information in the form of the scout platoon leaders report of scout or GSR sightings, but these elements and the scout platoon leaders are able to receive near-real-time assessment of what was significant about the enemy activity. The redundancy in the system also allows for accurate use of indirect fire assets by the fire support officer. All TOC elements, including the FSO, are privy to immediate information based on the ability of the S2 section to monitor the initial reports. This allows all elements to be ready for whatever decision the S3 or commander makes with regard to the report.

This system, whereby the scout platoon and GSR section operate on the internal scout platoon net, incorporates all the advantages of the previous two systems without the disadavantages. Reports are made on the command net alerting key leaders. Scout and GSR elements are more closely integrated than before. The surveillance net becomes a battalion spare. The command net could be jammed and the information will still reach the TOC through the redundancy. Less transmissions are made from the TOC because the S2 section monitors traffic rather than having to coordinate GSR elements. One ancilliary advantage through the close integration is the ability of the GSR teams to vector the scout squads as a matter of procedure rather than a special mission for either. During ARTEP exercises and FTX's this system has proved to be efficient and extremely reliable. The capabilities of both scout elements and GSR section are maximized through their close communications integration.

The experiments conducted in order to integrate the Scout Platoon and GSR section on one net were developed through my work as the battalion S2 in the 2nd Battalion, 1st Infantry, 9th Infantry Division at Fort Lewis, Wa. I served in this position from July 1980 to June 1981.

Capt. R. James Steiner is presently the S2, 2nd Battalion, 10th Special Forces Group, at Fort Devens, Mass.

Intelligence and Electronic Warfare Operations, FM 34-1, to be distributed

The long-awaited keystone manual for Intelligence and Electronic Warfare Operations, FM 34-1, is in the final production stages. The final approved draft will be distributed to the field in limited quantities by June or July of this year, according to Phil Young, chief, Doctrinal Literature Division, Directorate of Training and Doctrine, U.S. Army Intelligence Center and School.

This manual expands doctrine contained in FM 100-5 and establishes the doctrinal foundation for IEW operations for the AirLand Battle of today. It is based on applicable J-series tables of organization and equipment.

FM 34-1 is important to the intelligence community because it represents the first time intelligence doctrine has been incorporated into a single source for field operations. It is designed for use by commanders, staffs, and trainers and is focused at echelons, corps and below. It provides a doctrinal basis for future combat developments, training developments, and IEW operations in support of the AirLand Battle. The manual will provide a common basis of understanding for IEW terminology and operations. This understanding should affect the communication between USAICS and the MI practitioners in the field. In some instances the manual will change the mode of operation for units. The acceptance of the manual by the field is the key to its success. Young stressed that the manual is not perfect and feedback from the field is necessary to improve the quality of the doctrine. He said that it must be constantly updated.

FM 34-1 is focused on the four major functions of IEW as established by the IEWSPR and MAA. These functions are: situation development, target development, electronic warfare and counterintelligence. Situation development is the basic process by which intelligence is derived. Target development provides direct combat information, targeting data, and correlates targeting information which meet the commander's target selection criteria. Situation and target development provide commanders with the intelligence needed to fight the AirLand Battle. Electronic Warfare disrupts and deceives the enemy's command and control system while protecting friendly use of communications and noncommunications systems. Counterintelligence provides the commander with the ability to see friendly forces through the eyes of the enemy and therefore better protect the friendly force. The focus on CI in FM 34-1 is innovative in the sense that it approaches CI from a multi-disciplined standpoint. FM 34-1, reviews combat organization, offensive, defensive, retrograde, and joint and combined operations. It also covers defense and breakout of encircled forces, rear area protection, and special operations and environments.

FM 34-1 describes the IEW system and how it conducts operations in both peace and war to support the winning of campaigns and battles.

The IEW system includes combat, combat support, and combat service support elements. Although MI units provide dedicated IEW support, all units have an applied mission of collecting and reporting information. The IEW mission is accomplished through the combined efforts of all combat force elements.

Logistic support, critical to the sustainment of MI units, is discussed in FM 34-1. The large quantity of complex, low density equipment and the varied operational requirements characteristic of MI units pose a great challenge to logistic support.

Chapter 15 looks at the effects of nuclear, biological, and chemical warfare, surviving to fight and the reconstitution of the force to continue the fight. MI objectives for NBC operations are to survive, operate, and win in an NBC environment and to successfully conduct sustained operations under NBC conditions.

The manual also contains appendices on applicable references, intelligence reports, intelligence annexes, and other material.

According to Young, some common characteristics have been evident throughout the production pro-

cess for FM 34-1. It has been a very fast operation, 100 percent of the doctrinal literature resources were dedicated to its production, and consistent efforts were made to reduce the size of the manual and improve the quality of content. Young said the published version of FM 34-1 will be significantly improved over the initial drafts and 66 percent smaller than the original draft.

There were many sticking points during the writing of this manual. For example, the use of priority intelligence requirements and information requirements as opposed to essential elements of information and other information requirements caused much discussion among the reviewers of the drafts. Many conference participants objected to the use of PIR and IR, however, JCS guidance has blessed the use of PIR and IR, therefore, PIR and IR will appear in the final version of the manual.

One chapter of the draft manual on intelligence preparation of the battlefield was so impressive that a recommendation was made to have the chapter printed and distributed separately. Work is currently underway to prepare and publish this chapter as a TRADOC series 525 pamphlet.

Work has begun on other manuals which expound on the operations discussed in FM 34-1. The first priority in manuals according to Young, is FM 34-60, Counterintelligence Operations.

FM update

The intelligence and electronic warfare doctrinal literature program was recently revised to provide for current and planned force restructuring. The revised program is based largely on field recommendations made during the July 1982 Tactical Intelligence Conference and a follow-on conference held in November-December 1982. The current program consists of a keystone manual supported by an echelon series and a specialty series of manuals.

The keystone manual, FM 34-1, focuses on the general doctrinal principles for IEW operations. It describes the structure and functions of the IEW systems and how IEW operations support Army units in battle.

Echelon manuals describe IEW operations at each echelon in detail. Primary emphasis is on IEW staff functions and the organization and employment of organic MI unit.

Specialty manuals deal with a single aspect of IEW operations. They describe the techniques, procedures and technical aspects of the specialty.

Doctrine—Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application.

JCS Pub. 1

The following manuals will be produced under the new program:

Keystone

FM 34-1, IEW Operations

Echelon

FM 34- , Echelons Above Corps IEW Operations
FM 34-20, Corps IEW Operations
FM 34-10, Division IEW Operations
FM 34-80, Battalion and Brigade IEW Operations
FM 34-30, Armored Cavalry Regiment/ Separate Brigade IEW Operations
FM 34- , Special Operating Forces IEW Operations

Specialty

FM 34-40, Electronic Warfare Operations
FM 34-60, Counterintelligence
FM 34-2, Analysis
FM 34- , Signals Intelligence
FM 34- , Imagery Intelligence
FM 34-53, Tactical Ground Surveillance
FM 34- , Intelligence Collection Operations
FM 34-52, Intelligence Interrogation
FM 34- , Technical Intelligence
FM 90-2A, Electronic Deception
FM 34-81/AFM 10-54, Weather Support to Army Tactical Operations

The coordinating draft of the keystone manual, 34-1, along with field comments pertaining to it, were reviewed with MACOM representatives in November-December 1982. Based on this review, the scope and size of the manual have been reduced and a second coordinating draft prepared. The manual now focuses on company and field grade officers, O3 to O6, performing command and staff functions for IEW. Its size has been reduced by 250 pages while incorporating most comments resulting from field review.

The second coordinating draft of FM 34-1 was sent to MACOMs for review on 18 February 1983. A meeting in March 22-23, 1983, at Fort Huachuca finalized the contents of the manual.

The following is a recap of the status of other manuals currently in preparation.

- FM 34-20, MI Group (CEWI) (Corps), and FM 34-30, MI Company (ACR/Separate Brigade), have been forwarded to HQ TRADOC for printing and distribution. It is estimated that both manuals will be printed and fielded by May 83.
- FM 34-22, Battalion (CEWI) (Aerial Exploitation), was approved on February 11, 1983. It is presently in the camera-ready mechanical stage of production. This is essentially a design and typesetting process to ready it for photo printing.
- FM 34-81/AFM 105-4 is at HQ TRADOC for approval. It also requires USAF approval.
- Work is presently in progress on FM 34-10, FM 34-23, FM 34-40, FM 34-60, and FM 34-80.

The following manuals have been completed and were distributed on the dates indicated:

- FM 34-12, Collection and Jamming Company, MI Battalion (CEWI) (Division), was distributed November 1982.
- FM 34-21, MI Battalion (CEWI) (Operations) (Corps), was distributed January 1983.

A New Approach to All-Source Training and Automation

Psychological research on intelligence analysis is the basis for a three-year project sponsored by the U.S. Army Intelligence Center and School, the Office of the Assistant Chief of Staff for Intelligence, and the U.S. Army Research Institute for the Behavioral and Social Sciences. One outcome of the research has been a clearer picture of the thinking processes that take place during analysis. This knowledge is the foundation of a new "Cognitive Fitness" program which will provide better training for new analysts, as well as eventual automated support.

by Judith Englert and Ruth Phelps

Have you ever noticed on those intelligence production flow charts that the part intelligence analysts play is usually indicated by a single box labeled with something like "analyze," "correlate," or "integrate?" If you take those charts seriously, you'd think this business of "analyze," "correlate" and "integrate" is as simple and straightforward as the other boxes around it—like the ones labeled "enter data," "log in" and "transmit message." You and we know that's not the case—and now the Army not only knows it, but is beginning to do something about better understanding your "analyze," "correlate" and "integrate" by designing new training and automation specifically to support your analytical work. As a matter of fact, the Army is so serious about improving intelligence analysis, that a "cognitive fitness," program is being developed for all-source analysis.

The program consists of several projects to develop new training circulars and classroom materials for teaching analytical thinking for all-source tactical intelligence analysis. The materials are primarily intended to support current USAICS training by including the human information processing perspective of intelligence analysis. A second objective of the program is to evaluate selected existing automated intelligence support systems to identify available procedures and tools that could be incorporated into the USAICS training program to improve thinking skills.

The approach to enhancing analyst skills is based on the study results of a four-year ARI/U.S. Army Intelligence and Security Command project. This project, Investigation of Methodologies and Techniques for Intelligence Analysis, was designed to provide recommendations for automated system support for all-source analysts. After studying the actual processing activities performed by the analyst during the course of intelligence production, it was discovered that not only is relatively little known about the thinking processes, but also there is little training focus on how to *subjectively* process information. Thus, the focus of the initial study changed from a

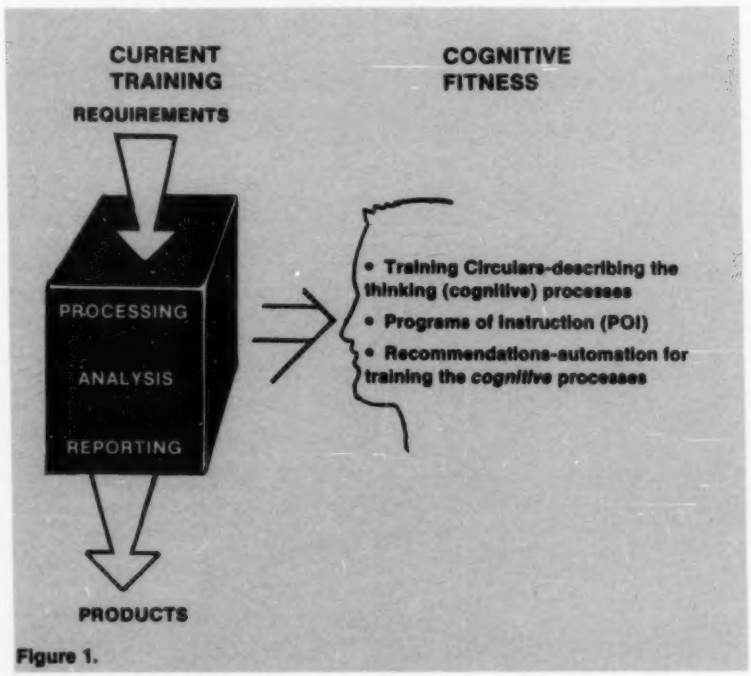


Figure 1.

study of automated support to a study of the thinking processes underlying intelligence analysis.

The outcome of the IMTIA study was a general model of the mental activities of analysts as they filter, interpret and analyze information. The model provides a basis for specifying which thinking/analytical skills should be trained but are not part of existing training programs. It also helps to determine where automated procedures or tools can support the thinking requirements of analysis—the places that are error prone or difficult because of human processing limitations. Automation can thus be used where it benefits analysts the most.

The USAICS/ACSI/ARI project team is currently developing training materials and evaluating automated aids based on this model. These new materials are intended to complement, rather than replace or duplicate, existing USAICS training. The specific materials developed for the cognitive fitness program are shown in Figure 1.

Describing the Thinking Processes of All-Source Analysis

The Psychological Perspective

Describing the thinking processes of all-source intelligence analysts is a complex and difficult task that can perhaps be best approached from a psychological perspective. Psychological research findings represent years of effort to understand thinking processes and offer a valuable basis for describing analysts' thinking processes for several reasons: (1) People generally have poor insight into their own mental processes. They can't describe in words just how they solve problems, arrive at conclusions, and formulate interpretations. We therefore cannot simply rely on expert analysts to tell us how they think. (2) Much of a person's thinking is done without conscious awareness. For example, recognition of a familiar object (tank vs. APC) or pattern (massing of artillery) occurs very rapidly without conscious effort. While people cannot directly tell us about unconscious processes they are, nonetheless, critical components of the analyst's mental activity. (3) Psychological research provides a basis for describing and anticipating human weaknesses in thinking. All people, including intelligence analysts, have memory and other limitations that can affect their judgments. For example, an analyst may forget an important piece of information, or overlook a valid alternative when making a choice. Both expectations and recent events can influence the interpretation of partial or ambiguous information. Analysts, like all of us, are not always logical, get sidetracked by irrelevant information, have difficulty integrating large amounts of data, and so on. What psychologists have discovered in general about human processing limitations can and should be applied to the task of understanding the very complex thinking processes of all-source analysis.

The Research Approach

Our first step in developing the model was to formulate a general description of the tasks common to the analysis of all types of input data (SIGINT, IMINT, all-source). This information was obtained through lengthy interviews with over 200 intelligence personnel performing either single-source or multi-source intelligence production activities. Observation of analysts on the job and review of relevant Army and DOD manuals, reports and instructional materials were additional sources of information regarding how intelligence analysis is performed. We also reviewed published scientific research findings on human perception, attention, memory, learning, decision making, and problem solving. The scientific literature and the information gathered on intelligence analysis both contributed to the general model of thinking activity during analysis.

The Research Findings

The basic model is depicted in Figure 2. There are seven fundamental thinking tasks conducted explicitly or implicitly by all intelligence analysts regardless of mission or echelon. While this extremely simplified representation of analytical processing shows the thinking tasks as sequential, it is clear that these may be performed in slightly different sequences and that the analysts may repeat some tasks several times while spending very little time on others. In fact, analysts are probably not conscious of executing some of these tasks at all, for example, checking memory or conducting hypothesis tests. There are two very basic processes that impact on the execution of all seven tasks:

- Analysts formulate their own conceptual models or frameworks. These are unique personal perspectives, ways of thinking, organizing, interpreting, etc. Every analyst has a different conceptual framework. Analysts use these frameworks to help them understand the enemy threat, organize information, notice gaps in information, and make decisions.
- Analysts must be constantly aware of how the developing intelligence products will fulfill the client's needs and requirements. The client is the person for whom the analyst is preparing the product, e.g., the section chief, G2, commander, etc., depending on the analyst's role. The analyst knows the client's needs by understanding the client's conceptual framework; that is, by knowing how this particular person sees the situation, thinks, etc. The quality of the product is measured by how well it serves the client's requirements.

Figure 2 shows a very superficial view of the cognitive tasks. As just *one* example of the detailed processes that underlie all seven tasks, the simple interpretation of a single piece of information is modeled in the top panel of Figure 3. Information entering the model is some form of sensory stimulus, for example, an aerial photograph. The initial processing or perception of this information is accomplished automatically, with little or no effort by the analyst, within a fraction of a second. After the sensory information is perceived it is combined with

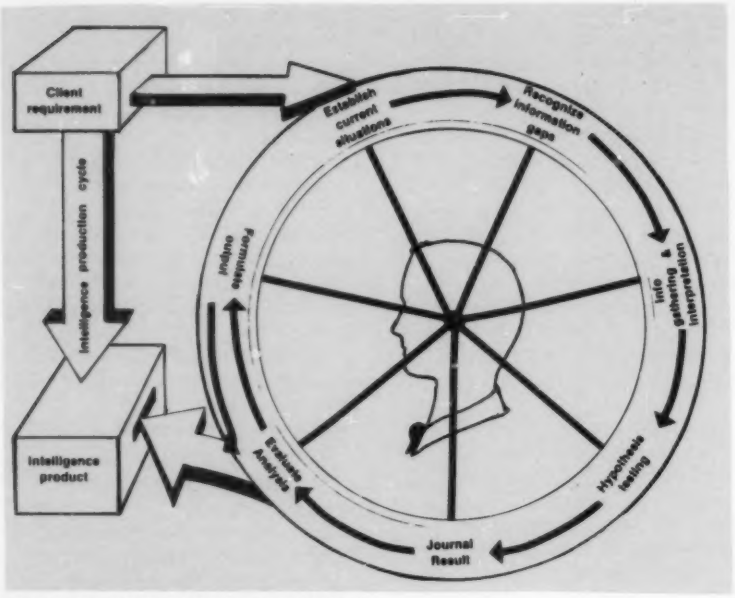


Figure 2. Model of Intelligence Analysis.

information stored in the analyst's memory to construct one or more initial meanings for the stimulus input. In other words, the perceived image of the photograph in our example is *compared* against the contents of memory and, when a reasonable match is found, the analyst *constructs* one or several hypotheses as to what the image represents. Within the framework of the model, this kind of compare/construct process is viewed as a central thought function. It is a basic, recurring cycle common to the interpretation of many different types of information. The center and bottom panels of Figure 3 illustrate extremely simplified examples for image interpretation and all-source analysis, respectively.

Three mental mechanisms are critical to the process described in Figure 3.

1. ***Filtering*** involves selection of the most important aspects of the data. It also identifies similarities that permit analysts to recognize objects as belonging to the same category, such as different types of tanks.
2. ***Consolidation*** of memory makes information more vivid or accessible by frequent or extensive processing of the information.
3. ***Interference*** causes errors in remembering due to the similarity of information in memory.

The model can be particularly useful for pointing out the types of errors that are likely to occur during the thinking processes of analysis as a result of known human characteristics. For example, some pieces of information will be better remembered than others, depending on their meaningfulness, how recently they were attended to, and so on. An all-source analyst who has spent several years studying SIGINT will find that SIGINT information will be very salient and easy to remember, while other information such as IMINT will not be easily recalled, possibly leading to a misinterpretation or inaccurate predictions. Because human memory plays a major role in processing and interpreting new information, we can begin to anticipate biases that may result from basing one's interpretations on only those items in memory that readily come to mind. One way around such a bias is to search memory for other relevant information, another way is to consciously adopt an information processing strategy that will make important information more memorable. The important point is that the model provides clues as to where training and thinking aids are needed the most. The training circulars will capitalize on these clues and provide a list of common thinking errors and biases along with techniques for correcting or avoiding the errors.

Fundamentals of Cognitive Fitness

Six major conclusions that emerged from the IMTIA study are the fundamentals for the "cognitive fitness" program.

- ***Analysis is a creative process.*** Intelligence doesn't exist as a single piece of information or even in an overwhelming amount of information. Intelligence is created by analysts as a result of actively integrating, interpreting, analyzing and synthesizing information. What is created is a unique product of the analysts' mental processing. Intelligence is not simply finding the "right piece of information," it's knowing what to do with the information. The analyst's conceptual framework, understanding of the client's framework, and thinking processes will all contribute to that creative process.
- ***Quality of mental cognitive activity depends on organizational constraints, personal interactions, background and training.*** The ability of an analyst to create intelligence will be helped or hindered by the restrictions, freedom, professional atmosphere and colleague relationships afforded by the mission and working environment of the intelligence unit. The analyst's own training and background will affect the quality and range of mental processing exerted by the analyst.
- ***The analysts' own memory is their most important resource.*** Analysts must make effective use of their own memory as well as external memory sources. Analysts can learn to improve their own memory capabilities by, for example, more effectively organizing and structuring new material to be remembered. Moreover,

how well analysts have organized what they know will determine how well they will be able to use the massive amount of information available from external sources, such as computerized data bases, references, card files, etc.

- ***Decision making pervades analysis.*** Every time an analyst records, sorts, or interprets a piece of information, a decision is made that will influence later processing and ultimately, perhaps, commander decisions. Analysts are constantly predicting the future from partial and unreliable information. Decision making is an inescapable and fundamental aspect of intelligence analysis that is often unrecognized.
- ***Analysis can be studied scientifically and objectively.*** The processes, variables, constraints, strengths, etc. of intelligence analysis can be largely understood and documented by scientists. Objective study will help the Army provide training, equipment and automation that will improve the quality of intelligence products and possibly reduce the time required. While scientists can never read peoples' minds or precisely predict how people think, there is, nonetheless, a great deal of analytical processing that is amenable to scientific study.
- ***There are common cognitive processes for all disciplines of analysis.*** The general model developed by the IMTIA project applies to all single-source as well as all-source disciplines. Many of the thinking processes are also fundamental to other fields of military analysis such as operations planning and collection and resource allocation. This commonality of processes allows application of the "cognitive fitness" approach to not only all MI areas, but also other military fields.

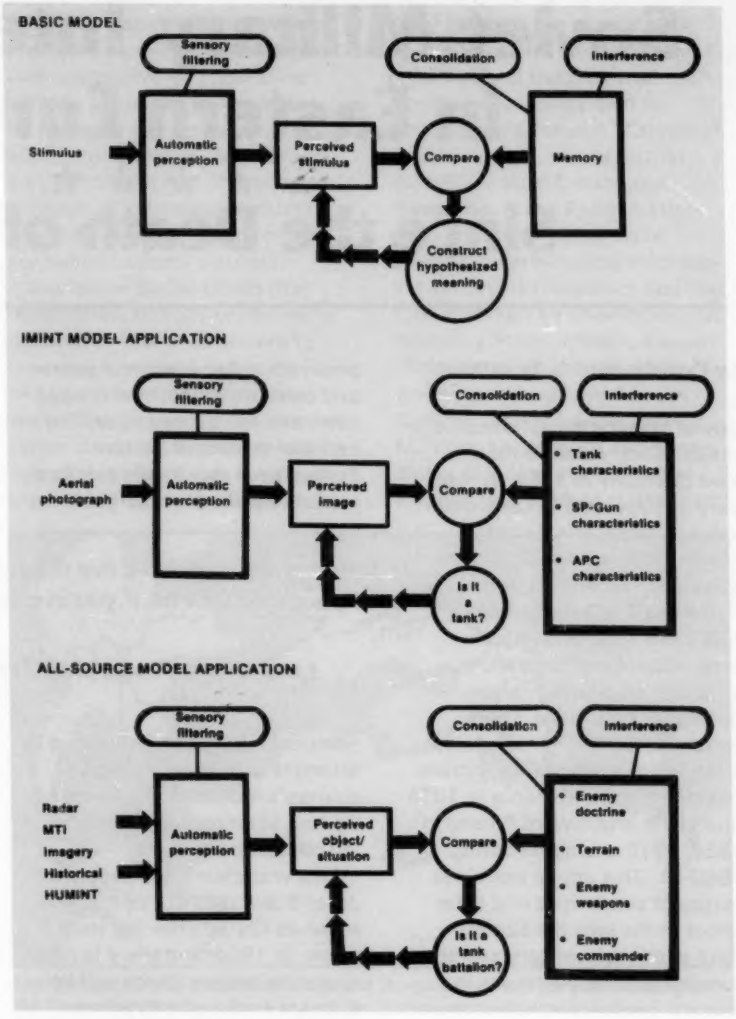


Figure 3. Compare/Construct Process.

CONCLUSION

Important implications of the IMTIA study for all-source analyst training are currently being applied to the development of training materials for USAICS. The descriptive model of the thinking processes of analysis has provided a basis for deciding what an analyst should be taught about the subjective processing of information. Training that is based on a good understanding of the thought processes will be more effective in producing analysts who make accurate interpretations, good choices, and logical inferences from large amounts of data. This is not to suggest that experienced analysts have not acquired these skills or are in any way cognitively unfit. However, new analysts, and particularly all-source analysts, can greatly benefit from "how-to" instruction in the thinking and analytical processes that have been identified by the model as fundamental to all-source intelligence analysis. This is particularly important since high technology and more powerful, faster weaponry have made the analyst's task both more complex and more critical. With appropriate training early on, analysts will be initially better prepared for their jobs before they have had the opportunity to benefit from years of experience. "Cognitive fitness" training should be of great benefit to analysts in their military duties.

Continued on page 38

Soviet Military Intervention in Eastern Europe

★ ★ ★ ★ ★

Since the Death of Stalin

by Col. Richard S. Friedman

Soviet military forces executed a major military intervention in East Germany in 1953, in Hungary in 1956, and in Czechoslovakia in 1968. The Soviet Union responded to Tito's evolving independent and nonaligned policies in 1949, 1951 and 1970 with significant military demonstrations, although an actual intervention never took place. There were also Soviet military demonstrations of a threatening nature directed toward Romania in 1968 and 1971, and toward Poland in 1956, 1970 and again during 1980-81. This article examines pertinent similarities and differences in the way the Soviets have used their military power to support political objectives in Eastern Europe. Further analysis and discussion of these factors will provide some potentially useful indicators for forecasting future Soviet behavior in that area.

Historically, the process of leadership succession in the Soviet Union has always produced significant reactions throughout Eastern Europe. The struggle for mastery of the Kremlin is not the only condition to produce significant reaction, but frequently problems in other Eastern European countries will be found to have their origins in this cause. Each new Soviet leadership, in its early days, turns inward as it becomes preoccupied with consolidation of power and control over both party apparatus and the bureaucracy. The national leaders of Eastern Europe have repeatedly sought to exploit this situation to their own personal advantage, evidenced by attempts to expand their own country's independence and to try new solutions to their continuing domestic problems.

> "It does not do to leave a live dragon out of your calculations, if you live near him."
>
> **Lord of the Rings** J.R.R. Tolkien

This was clearly the case when Josef Stalin died in 1953; it was so when Khrushchev fell from power in 1964, and there is little reason to believe things will be different in the post-Brezhnev period. To a lesser degree, succession problems in the various nations of Eastern Europe have also affected regional affairs, but the Soviet Union, nevertheless, remains the principal focus of power which determines the course of events.

In East Germany, only three months after the death of Stalin in March, 1953, the government greatly increased industrial production. The new industrial requirements aggravated existing labor unrest. On June 16, workers in Berlin organized major street demonstrations and protests. Government buildings and officials were attacked, and the protests quickly spread to Dresden, Leipzig and other smaller cities. The Soviets had only begun to fully develop an East German **National Volksarmee** the previous year, therefore they concluded that the East German authorities would be unable to suppress the uprisings. On June 17, three Soviet motorized rifle divisions sealed off Berlin, occupying key points in and around the city. The insurrection was put down forcefully with about 1000 casualties.

In Poland, in 1956, large-scale demonstrations occurred, but stemmed from a different cause. Largely as a result of dissatisfaction with the lack of progress in resolving wage disputes, in Poznan during June 1956, factory workers went on strike and organized large demonstrations which became disorderly. Prime Minister Josef Cyrankiewicz ordered Polish tank units and military support elements into the area. This response by the Polish army was prompt, effective and eliminated any need for Soviet military action. Soviet forces remained uninvolved except of their patrol activity along the Polish-East German frontier. These Soviet patrols had been established to block escape routes to Polish activists seeking to enter East Germany.

The 1956 revolution in Hungary occurred at about the same time as the disturbances in Poland, but under different cir-

cumstances. In Hungary, a local crisis resulted in the total collapse of party leadership. Widespread and uncontrolled violence followed and was stopped only after brutal Soviet military intervention.

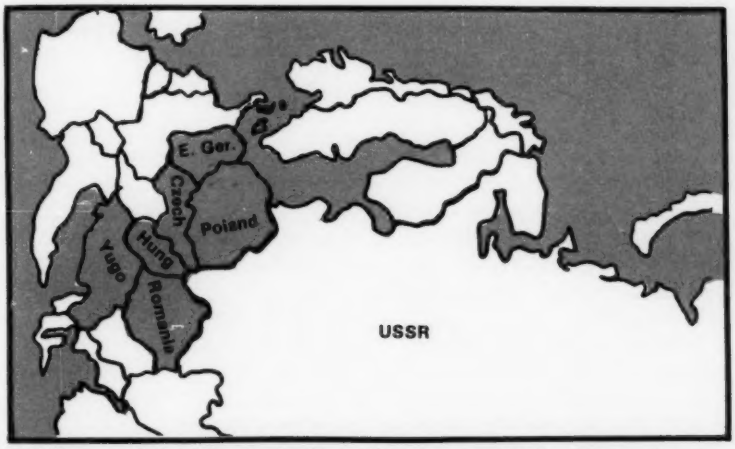
In 1968, Moscow faced yet another situation in Czechoslovakia. Changes in Czechoslovakian party leadership resulted in adoption of an ambitious and broad-ranging program of liberalization called "Socialism with a human face." This program was viewed in neighboring countries, particularly the Soviet Union, with grave anxiety. What was prohibited in Poland, Hungary or in the Ukraine could not be allowed in Czechoslovakia. Prague's response that the party was in complete control was unacceptable. The Czechoslovakian party was perceived as having departed from the "correct" path in an irresponsible and alarming manner, even though there was no popular involvement in the changes. Kremlin dissatisfaction with developments in Czechoslovakia brought about a military intervention.

Two years later, Polish authorities announced a 20 percent increase in prices for food, clothing and fuels. Rioting broke out quickly in Gdansk and other Baltic cities and unruly crowds gathered in many cities throughout Poland. Polish authorities again reacted swiftly. Polish military and police elements restored order. A few Soviet units located in East Germany deployed toward the Baltic, and Soviet soldiers again patrolled the frontier, but no Soviet troops were used in Poland.

The roots of each local crisis are found in an evolving domestic political and social upheaval, which in turn caused a series of broad changes under weakened national leadership. It was the combined effect of these occurrences—a local national leadership crisis accompanied by popular unrest, and the outbreak of spontaneous demonstrations and uprisings—that caused Moscow to perceive an impending danger. According to fundamental orthodox principles of Marxism-Leninism, these are the very conditions which precede a collapse of the existing system, thus it follows that Kremlin leaders would become alarmed.

It was the Soviet Union that determined, directly or indirectly, the course that events were to take place in these countries. The principal important difference was in the degree of involvement, rather than whether the mode was direct or indirect. For example, during 1956, the Soviet role in Poland was maximal, but the employment of military force was negligible, while at almost the same time in Hungary the Soviet role and applied military force were both maximal. It is also important to recognize that all of the contending local factions in both countries endeavored to exploit Soviet perceptions to their own particular advantage.

The origins of the 1956 crisis go back to the 20th Congress of the Communist Party of the Soviet Union held in Moscow during January and February of that year. It will be recalled that this was the CPSU Congress that officially initiated the campaign of de-Stalinization. It was clearly predictable at the time that such a program, accompanied by Khrushchev's famous "Crimes of Stalin" speech, would further destabilize local Communist leadership in the Eastern European countries which were already undermined by their earlier variances from strict Stalinist rule. It should be understood that following Stalin's death, Khrushchev was in a power struggle in which he was opposed by the Stalinist faction headed by Molotov, Kaganovich and Voroshilov. The lack of unity in the Kremlin was evident in 1956 and remained unresolved until 1957 or 1958.



East Germany, Poland, Czechoslovakia and Hungary are under the close scrutiny of the Soviets for security reasons and remain likely candidates for intervention. Yugoslavia and Romania are not considered as vital and are less likely to face Soviet intervention.

In Poland in 1956, after the death of Boleslaw Bierut, the Stalinist first secretary of the Polish Communist Party, local factions contended at length for supremacy; however the real search for Bierut's successor was supervised directly and personally by Khrushchev from Moscow. In Hungary, during the period 1953-56, a Budapest power struggle also took place against a background of contention between Khrushchev and his adversaries. The domestic con-

tention between Matyas Rakosi, the Moscow-oriented Stalinist "hard-liner," and Imre Nagy, the nationalist "consumerist" reformer, was arbitrated by Moscow, chiefly through the Soviet ambassador in Budapest, Yuri Andropov.

The Soviets closely monitored developments in Poland and were the ultimate determinants of the direction of events. The leadership struggle in Poland took a serious turn with the outbreak of the riots in Poznan during June 1956. The riots were brief and remained localized, but the underlying popular unrest continued to spread. During September and early October, large-scale sporadic demonstrations occurred throughout Poland. The riots were quickly suppressed by Polish military and police forces. This action permitted the Polish leadership to keep out the Soviets at the time and gave them a persuasive case with which to resist later Soviet military pressures. Prompt and effective Polish suppression of these disturbances also mitigated Polish anti-Soviet expressions.

The riots had the effect of further isolating the "hard-line" elements in the party, paving the way for Wladyslaw Gomulka to come to power. The potential loss of power of the pro-Soviet faction in the Polish party leadership caused the Kremlin to increase their pressure on the Poles. On Oct. 19, Soviet troops in Poland began to deploy toward Warsaw. A Soviet delegation, led by Khrushchev, arrived in Warsaw. After an all-night session with Polish leaders, Khrushchev agreed to a number of significant concessions, including the removal of Soviet Marshal Rokosovsky from Poland, thus ending his role as Polish defense minister. In his negotiations, Khrushchev concurred in party leadership for Gomulka on the basis that Gomulka would be able to halt further deterioration in Polish internal affairs and Polish-Soviet relations.

Throughout the 1956 Polish crisis, the Moscow objectives were widely publicized. The Soviets demanded, above all, that the Poles immediately stabilize their politburo with a distinctly pro-Soviet balance. Behind the Soviet demands there echoed a steady drumbeat from Soviet and East German media making increasingly shrill claims of "anti-socialist" activity. Soviet military activities also began to assume a more sinister posture, an example of indirect pressure. Soviet Colonel General K.N. Galitskiy, commanding the three divisions making up the Soviet Northern Group of Forces, moved his command post from Legnica to Lodz, closer to Warsaw, and reinforced his command from 30,000 to 70,000 with the addition of four more divisions. Some Soviet divisions near Poland were placed in a higher state of readiness. Soviet naval vessels were deployed to close the Gulf of Gdansk. Activities of Polish national forces became somewhat confusing during this period. Two weeks before the party meeting on Oct. 19, the Polish army had been placed on alert. This alert had been ordered as part of a Soviet intrigue organized with the backing of Soviet Marshal Rokossovsky in support of the Stalinist "hard-liners" in the politburo who were planning a coup. Polish security forces remained loyal to Gomulka, however, and, in one instance, halted movement of major army units only 50 kilometers from Warsaw. It seemed somewhat odd at the time, with the combination of Soviet political pressure and demonstrations of military power, that Khrushchev was willing to depart so quietly for Moscow on Oct. 20, after agreeing to Gomulka's election.

From the recollections of Gomulka, confirmed by other observers, it was clear that the historic all-night conference was not a conclusive one. Gomulka acknowledged to his colleagues that he had only bought time. Subsequent revelations also confirm that Khrushchev's tough posturing was mostly a bluff. While he had kept open his options to employ military force, he preferred to avoid this since he was not out of the woods in his own struggle for the mastery of the Kremlin. Gomulka had some powerful opposition in Warsaw, but even his most vigorous adversaries came to accept the necessity of supporting him in order to find some way out of the overall crisis. In much the same fashion, Khrushchev had concluded that Gomulka was the only man capable of handling the situation in the light of deteriorating conditions existing in Poland at the time. Khrushchev was aware that Gomulka, an old and dedicated communist, was not completely subservient to Moscow's interests. His installation as party leader in Warsaw, however, guaranteed that the Polish party would remain in reliable hands. This guarantee was essential to Khrushchev as he returned to face his own battles in Moscow.

Even though it occurred at about the same time, the situation in Hungary was completely different in context from that in Poland. Aside from the major Soviet participants, the principal figures in precipitating the Hungarian tragedy were party leaders Erno Gero and Andras Hegedus. Gero and Hegedus came to

Intervention—to interfere, usually by force or threat of force, in another nation's internal affairs, especially to compel or prevent action or to maintain or alter a condition.

power after July 1956, when Khrushchev dispatched his emissary, politburo member Anastas Mikoyan, to Budapest with instructions to "fire" Matyas Rakosi, the longtime "Stalinist" first secretary of the party. Both Gero and Hegedus were party **apparatchiks**, out of touch with popular feelings in their own country and equally insensitive to the winds of change blowing in Moscow. Imre Nagy, the old "reform" communist, was on the sidelines initially, as was Janos Kadar, the man who was ultimately to take power in Budapest.

On Oct. 23, there was a major demonstration in Budapest of solidarity and sympathy for Poland. The demonstration was held at Bem Square, on the Buda side of the Danube, in front of a monument to Josef Bem, a Polish general who had led Hungarians during their 1848 revolution against Austrian rule. The demonstration quickly turned into a riot which Gero requested Soviet military forces to put down. This action by Gero and the appearance of Soviet forces had the immediate result of turning a street riot into a general insurrection with quite serious anti-Soviet overtones.

In response to popular demand, a new Hungarian government was established with Nagy at its head. On Nov. 1, Nagy proclaimed Hungarian neutrality, resigned from the Warsaw Pact and requested immediate withdrawal of all Soviet troops from Hungary. Prior to this announcement, it is clear that the Soviets were trying to maintain flexibility. They were improvising in a rapidly deteriorating situation, but without any clear strategy except to try and keep all options open.

The Soviet leaders quickly appreciated that the prospects for a negotiated settlement in Budapest were virtually nonexistent. Gero had first asked for Soviet military aid around Oct. 21. The prompt Soviet response, with two divisions from the Soviet forces in Hungary, seems to have been based upon the same reasoning followed by Moscow in East Germany in 1953, i.e., that it had no alternative except to respond to a request made by national leaders unable to contain the situation with their own resources.

When the crisis in Hungary began, Soviet forces there consisted of about 20,000 men and 600 tanks, mostly concentrated around 80 kilometers east of Budapest near Szolnok. When violence broke out on Oct. 21, Soviet General Grebennik took the precaution of ordering reinforcements, and some of these were on the way before the Hungarian leaders requested help. Initially, Soviet troops moved into Budapest only to protect the Soviet embassy, the Danube River bridges and the Hungarian Parliament building. According to witnesses, even though Soviet forces were suffering casualties, they tried to avoid combat. By Oct. 29, however, Nagy had assumed power and had negotiated a tenuous ceasefire with the Soviets.

Although there are still some conflicting views concerning Soviet intentions during the period after Oct. 24, the weight of available evidence suggests that most of the decisions announced by Nagy, particularly for the re-establishment of diverse political parties and the withdrawal of Soviet troops, had been coordinated with Moscow. What had not been coordinated was Hungary's declaration of neutrality and resignation from the Warsaw Pact. Khrushchev and his associates, at this juncture, had three alternatives: first, if Nagy (or later, Kadar) was able to gain overall control as Gomulka had been able to do in Poland, the Soviets would then be able to relax their own military sanctions in Hungary. The second alternative was to employ the confusion created by the Soviet troop movements and the overall fluidity of the situation to increase or maintain pressure on Hungarian leaders. The third alternative, a variation of the second, could be accomplished by reinforcing. In this way, the Soviets could use their troop movements not only to convey threats in a forceful and highly visible way, but also to prepare for a decisive intervention, if required.

Increasingly chaotic conditions everywhere in Hungary rendered the first alternative impractical at an early date. The second alternative was considered for a longer time. Anastas Mikoyan and Mikhail Suslov flew to Budapest on Oct. 29, apparently with this alternative still open. After they finished their survey of the scene, the second alternative was dropped. It was not possible to state precisely when Moscow actually decided upon military intervention, but all of the evidence points to some time shortly after Oct. 30, when Mikoyan and Suslov returned to Moscow, and before the evening of Nov. 1, when Kadar disappeared from the streets of Budapest, only to reappear a few days later in the Soviet headquarters at Szolnok. Reports all coincide in the fact that Hungarian leaders were unable to communicate with the Soviet leadership, either in Budapest or in Moscow after Oct. 30. At the same time, Soviet civilians in Budapest were being evacuated by boat to Czechoslo-

> . . .Soviet military personnel began to visit Prague and other cities in large numbers as "tourists . . ."

vakia, another clear indication that Moscow had made a decision for action.

The Soviet repression of the Hungarian revolution was vicious. In addition to the many killed and wounded in the widespread conflict, at least 2000, including Nagy, were executed. The later process of normalization in Hungary, which took place over a period of 10 years, proceeded along considerably more liberal lines than that which occurred in Poland.

The conclusion of this article will appear in the July-September issue. Col. Friedman will discuss Soviet intervention during the 1968 crisis in Czechoslovakia and Soviet influence in Poland today.

Col. Richard S. Friedman is currently assigned to the International Military Staff at NATO Headquarters in Brussels as Warsaw Pact/Eastern European Area Specialist in the Intelligence Division. He received an ROTC commission from the University of Virginia, Friedman also received a degree in Law (1951) from University of Virginia. Friedman graduated from the U.S. Army Intelligence School; U.S. Army Command & Gereral Staff College; U.S. Army War College and The Foreign Service Institute of the U.S. (Area & Language Program).

New Approach - Continued from page 33

Judith Englert is a Research Psychologist at the U.S. Army Research Institute for the Behavioral and Social Sciences. Englert received her doctorate in cognitive psychology from Southern Illinois University at Carbondale in 1983. As part of her graduate training, she worked for the Man-Machine Sciences Group, Training Technology Section, at Honeywell's Systems and Research Center.

Ruth H. Phelps received her doctorate in psychology from Kansas State University in 1977. Phelps is currently a research psychologist at the U.S. Army Research Institute for the Behavioral and Social Sciences where she is engaged in both basic and applied research on the cognitive and decision making processes of military intelligence analysis. Phelps is active in both graduate and undergraduate university teaching in psychology.

CRYPTOCORNER

Cryptocorner solutions from page 20.

Film lightstruck when curious nighthawk awkwardly pecks cartridge. Unknowing lensman finds autumn pictures ruined.

. . . . . .

Avid author acquired antique auto at art auction, after asking along agent and armed aide.

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C: LEXICOGRAPHYBDFJKMNQSTUVWZ

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Military Intelligence Proponency

Foreign language maintenance through extension courses

Do you want to enhance your foreign language capability? Does your unit need to improve the quality of language products? The Defense Language Institute, Foreign Language Center is producing written texts and cassette tapes under the auspices of the Army training extension course program expressly for the purpose of upgrading language proficiency. These high-quality materials are now being produced under the title of Professional Development Program Extension Courses.

The current PDPEC concentrate on the interrogator modes of instruction; however, these courses are beneficial for all linguists who want to improve their military terminology. Each course covers the preparation, approach, questioning, and termination phases of a tactical interrogation. Lessons are structured around such subjects as organization, strength, weapons, mission, tactics, and training. The courses are presently available in German, Chinese, Korean, Czech, Egyptian, Iraqi, and Syrian.

PDPEC materials are being distributed directly to military units who employ linguists using a ratio of one set per three linguists. Units are advised that requests for additional sets should be sent through normal TEC channels to Defense Language Institute, Foreign Language Center, ATTN: ATFL-DT-N, Presidio of Monterey, Calif. 93940.

New Defense Language Proficiency Test explained

The Defense Language Proficiency Test III will replace the DLPT I and DLPT II, which now exist in over 40 languages. Current DLPTs test only listening and reading skills in the lower part of the language proficiency scale (level 0-3).

The new DLPT III will test the full proficiency range (level 0-5) in three skills—listening, reading, and speaking. Written tests may be added later if users determine there is a requirement. The DLPT III will be a two-tiered system. Only those who score "3" on a lower range test will be eligible to take the upper range test in that particular skill area. The primary goal of this new language test (with new level language proficiency descriptions) is to standardize language proficiency measurement terms across various government agencies. These changes have been requested to be added to AR 611-6 and AR 350-20. A prototype DLPT III has been developed in Russian. The lower range test was completed in October 1982, and the upper range test will be completed in November 1983. Work will begin in eight other languages in fiscal year 83. Four other languages will follow in fiscal year 84.

Magazine seeks Viet Nam era literature, photos

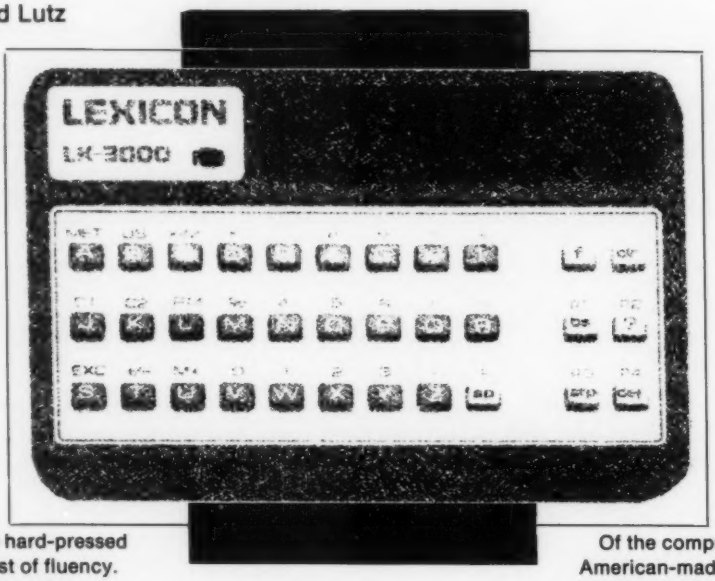
Pig Iron magazine is inviting creative writers, journalists, photographers, artists, and veterans to submit material for a special "Viet Nam Era" anthology to be published in December, 1983. Fiction, poetry, articles, reminiscences, photography, and drawings are being solicited. The editors are interested in including a variety of perspectives and viewpoints from the Viet Nam war period, with a particular emphasis on the point of view of the American soldier in Southeast Asia. Contributors are not required, however, to have served in the armed services, or to have been in Viet Nam. Some material reflecting the attitudes of the American peace movement will also be included. The editors are also interested in photographs taken by servicemen or journalists in Viet Nam. Photographs in any format, from polaroid snapshots to professional prints, can be submitted.

Pig Iron Press is a non-profit literary publisher funded by private donations and grant support from the Ohio Arts Council. Upon publication, contributors will receive $2.00 per poem, photograph, or published page of fiction, and two copies of the anthology. **Pig Iron** is distributed by mail order to individuals and libraries. The deadline for submissions for the "Viet Nam Era" collection is September 1, 1983. Pig Iron Press, P.O. Box 237, Youngstown, Ohio 44501, (216) 774-2258.

Tactical Translation Computers or "Does Anyone Here Speak Sesotho?"

FM 100-5 states, "U.S. forces must have a capability for communication in the language of the forces with which they will operate. Besides skilled interpreters-translators in the position which are usually required, battalion and higher commanders will require enough language capability to communicate with adjacent and supporting commanders . . . *All personnel should receive training in the basics of communication in the allied language, recognition of road signs, directions, and methods of effecting simple coordination.*"

by Capt. Raymond Lutz



The language qualified personnel which FM 100-5 refers to are currently trained at the Defense Language Institute, Foreign Language Center. While the center has an outstanding track record in producing qualified linguists, fiscal constraints restrict the length of initial training. Practical experience has shown that language proficiency is highly perishable and tactical units are hard-pressed to maintain even a gist of fluency. Military bilingual dictionaries are dated, bulky and generally restricted to only military terms. Users are also subject to gross idiomatic mistakes which could lead to fatal misunderstandings.

FM 30-5 says, "qualified intelligence interrogation personnel are not normally assigned or attached below brigade level except for specified operations, PW are not formally interrogated at echelons below brigade, however, brief initial tactical interrogation is encouraged at the lowest echelon in order to determine information of immediate tactical value." Interrogators are not assigned to company or battalion level. Voice intercept operators in collection and jamming platoons are not generally placed in direct support of units below maneuver brigade level.

How could a scout section sergeant find out from a local farmer if a Greek mountain pass was open? How could an artillery officer coordinate fire control measures with an adjacent Italian unit or an armor platoon leader find the location of SAGGER missiles from a willing Soviet prisoner of war? The answer is a low maintenance, easy to operate, inexpensive piece of equipment which can be purchased off the shelf for the Army today.

Bilingual computers have been used by the armed forces for years to translate routine documents for their intelligence value. The advent of microchip technology has made a hand-held modular computer available for the first time. A variety of manufacturers are currently producing these devices at retail prices ranging from $125 to $200.

Of the computers examined, the American-made Lexicon LK-3000 seems to meet technical specifications adequate for military purposes. The entire LK-3000 system consists of a computer terminal, program module, power adapter, carrying case and instructional booklet/grammatical guide. Its total weight is well under half of a kilogram. The dimensions of an operational terminal are only 95.3mm by 156.3mm by 31.8mm. Although the owners manual states the operating temperature is O° Celsius through 40° Celsius, and the Lexicon operated at -15° Celsius for an extended period with no adverse effects.

The dull brown carrying case has a belt loop and is cushioned to protect the terminal when not in use. It

also contains pockets to carry additional modules. The adapter/charger has a three meter cord and can charge the 500 milliamp-hour nickel cadmium batteries or power the unit directly from a 110 volt, 60 hertz or 200 volt, 50 hertz power source. Power consumption is only one half a watt per hour. The batteries can operate continuously for four hours on a single full charge.

The terminal features a dual alphanumeric keyboard similar to a typewriter. Each key indicates a number or a letter. Depending on the module attached the terminal can serve as a translator or a calculator. With a little practice the average individual rapidly progresses beyond "hunt and peck" to create sentences rapidly and accurately. The display consists of a 16-character light-emitting diode. The visual display is in a subdued red light, readable in bright sunshine but dim enough to operate at night near the front lines. It is entirely passive. The body is made of impact weather resistant plastic. The various modules can be switched in less than five seconds, entirely changing the mode and function of operation. The terminal is extremely simple to learn to operate.

The meat of the entire system are the self-contained, interchangeable modules. The current library selection for the LK-3000 includes all of the major languages used in NATO and most of those used by the Warsaw Pact. The system manufacturer will continue to develop new program packages. Romance, Semitic and Cyrillic packages already exist. Mandarin and Cantonese could be translated using the Pinyin (transcription) system rather than having each character represent a separate meaning. Modules could easily be developed for specific military functions such as logistics, NBC/medical or engineering terms.

Each module has a microprocessor with a large but limited capacity, approximately 2500 words. The nuances of any language are nearly infinite. This is the major drawback of the system. Each module contains a standard bilingual explanation of the system. At first glance this appears to be a potential problem because it is based on the assumption that the interface is conducted between two literate people. A 1974 list of adult literacy rates for various nations is shown below:

Afghanistan	14%
El Salvador	63%
West Germany	99%
Iran	50%
South Korea	92%
Netherlands	99%
Poland	98%
Soviet Union	99%

Grammar booklets which accompany each module would allow an American soldier to phonetically speak to an illiterate. Obviously this would be a one way communication only. All modules allow the user to "browse" the permanent memory for specific phrases or words. These can then be pulled from the "dictionary" and placed in the temporary storage to create entire sentences or paragraphs.

The limited memory capacity will not provide complete fluency in another language but they will enable the user to get his meaning across which is, after all, the point. Grammar must be kept as simple as possible. Translations are often not strictly grammatically correct. Syntax or sentence structure may not be precise. All verbs appear in their infinitive or present tense singular form. Similarly, nouns appear in their singular form.

The finite memory can be circumvented by the initiative of the user. If a word cannot be found in the memory a synonym may be used. For example, using the Spanish module, an operator cannot say, "where is the closest town?" He can say, "where is the close small city?" Using the grammar booklet one can further refine the sentence to ask, "where is the closest small city?" While not precise, it does get the point across.

In the next conflict, U.S. forces could well be outnumbered. Combat information at battalion level for targeting purposes is essential. The translator terminal would greatly assist in gathering this information. It is also possible that the next battlefield may not be in Europe. Imagine the consternation of a support platoon leader in Iraq trying to communicate with a Kurd or Arab. Sign language would clearly be inadequate to find the nearest fuel point. Use of the LK-3000 would alleviate this problem.

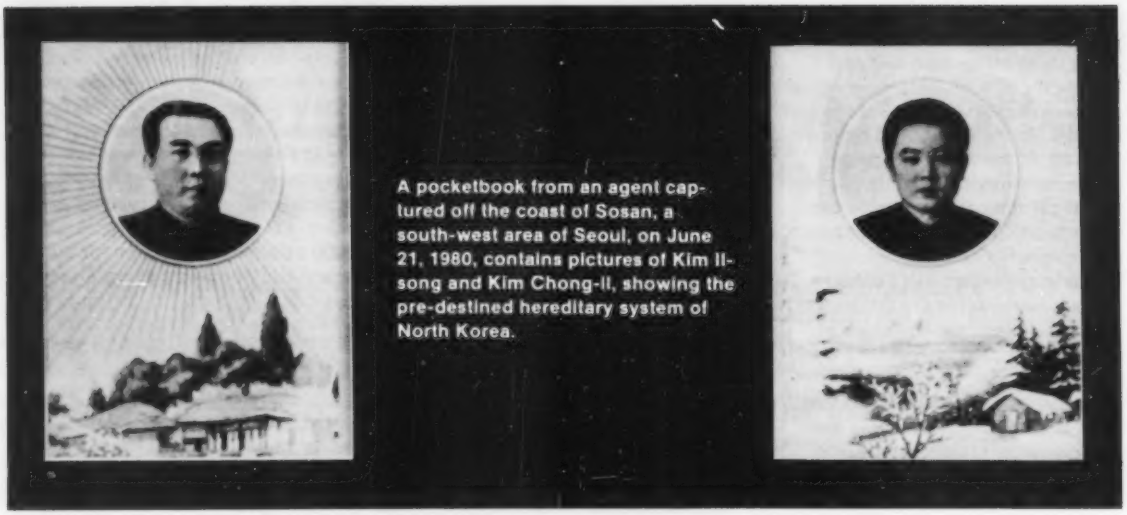
Research and development on translator systems has been conducted by civilian industry already. Devices have proven themselves in a field environment and are readily available. Over 5000 computers could be purchased for well under $1 million. Acquisition of these systems would permit every battalion-sized unit to have one or more LK-3000 with modules geared for their specific contingency areas. These devices, due to their pilferability and intelligence gathering capability should be placed on unit MTOEs and given to S2s.

Located in the TOC, the terminal could be used in the calculator mode for NBC or FDC calculations. Captured low-level documents and prisoners enroute to the brigade could be informally exploited prior to insertion into the processing chain. Depending on specific unit missions the device could be given to companies or platoons on semi-independent missions.

Less apparent benefits of the system include its maintainability and use as a training device. Operator maintenance consists of charging batteries and wiping mud off. In a peacetime situation, terminals would be a valuable supplement to training extension course programs used to reinforce voice interceptor (MOS 98G) and interrogator (MOS 96C) proficiency. LK-3000s could also supplement their vocabularies to assist in "gist queing."

In summary, the 100,000 language qualified people presently in service cannot support the Army's need for trained linguists. A low cost, rugged, easy to operate and maintain piece of equipment is available today to help fulfill the requirements of the service. Naturally, computers will never replace human linguists who can detect inflections and mannerisms, but they can serve as training devices and be used at the lowest tactical level to gather combat information.

Capt. Lutz is a graduate of Rutgers University with BAs in sociology and political science. He has served as an analyst at the Foreign Science and Technology Center and as a battalion and DISCOM S2. He has commanded both infantry and quartermaster companies. Lutz has attended the MI Officer Advanced Course and is assigned to HQ, USAREUR.



A pocketbook from an agent captured off the coast of Sosan, a south-west area of Seoul, on June 21, 1980, contains pictures of Kim Il-song and Kim Chong-il, showing the pre-destined hereditary system of North Korea.

KIM CHONG-IL, NORTH KOREA'S HEIR APPARENT

by Capt. Michael A. Fox

"He is the most significant Marxist-Leninist of our time, the Great Leader of world revolution, the sun whose beams light up Asia, Africa, and Latin America."[1] North Korea does not mince words when describing Kim Il-song, dictator of the most reclusive country in the world. He is the only leader North Korea has known since he was installed in power by the Soviets in 1948. For the past 35 years he has molded his country into what his people believe is no less than heaven on earth. At the same time, he has managed to keep North Korea hermetically sealed from all the political and social developments that have occurred in the rest of the world. Now 70 years old and in poor health, he has taken steps to insure his country will continue to develop in consonance with the established guidelines of his Chuche (self-reliance) philosophy. In a move toward the establishment of the world's first Communist dynasty, Kim Il-song has appointed his son, Kim Chong-il, to follow him as the next president of North Korea. The emergence of Kim Chong-il poses a significant threat to peace on the Korean Peninsula and could affect the stability of northeast Asia.

Kim Chong-il was born in Siberia on February 16 in either 1940 or 1941. His birth is an unofficial holiday in North Korea. His mother died during the Korean War and he spent his early childhood with the Korean community living in Siberia and returned to North Korea in 1953. He graduated from Kim Il-song University in 1964 and was given his first government position in the North Korean Department of Organization. He moved through numerous departments gaining experience and served a short tour of military duty in 1971 as a second lieutenant.

His father's plan to insure a smooth transition of power was implemented in 1973 when Kim Chong-il was appointed Secretary of the Central Committee with special duties in the information service. His influence grew rapidly after this appointment. He became known as the "Respected Leader" and "Leader of our People." He orchestrated the August 13, 1976 incident at Panmunjon in which two United States Army officers were killed as they supervised a tree trimming detail in the demilitarized zone between North and South Korea. The strong show of force by the U.S. following the murders resulted in Pyongyang's being forced to issue a statement of regret over the incident. Kim Chong-il quickly dropped from sight after the affair. He was blamed for North Korea's loss of face and for exposing the country to a severe U.S. countermove. His forced exile lasted more than two years. During that time, several Western news agencies reported that he had been severely injured in a traffic accident. There was considerable speculation as to whether the accident was actually

an assassination attempt by senior army officers who resented and feared Kim Chong-il's growing power.

He resurfaced in early 1979 as a member of the powerful Party Political Committee. It was at this time he began to assume control of North Korea's Communist Party operations. "References to the 'Party Center'—Kim's code name in the tightly controlled North Korean press—again became frequent."[2] Kim Chong-il had spent his exile consolidating his control over the party structure. Friends were appointed and enemies purged. The newly elected vice-president and defense minister were partisans who fought with Kim Il-song in his anti-Japanese struggles. Their appointments insure Kim Chong-il the latitude to display his capabilities while waiting to succeed his father.

North Korea convened the Sixth Workers Party Congress in October 1980. More than 3000 party representatives and foreign dignitaries were invited to attend the stage-managed affair. The well-oiled North Korean propaganda machine described the achievements of the congress in glowing terms. Kim Chong-il emerged as the number two man in the Party Secretariat, number four in the Politburo Standing Committee and number three in Military Committee. He appeared prominently in a group of important foreign visitors and national leaders photographed outside the North Korean capitol building. His name was pronounced with added emphasis during several speeches causing "spontaneous" applause among the attendees. The scenario placed Kim Chong-il ahead of all other potential leaders although the congress stopped short of making a formal succession announcement.

Kim Chong-il will face an uncertain future when he takes hold of the reins of power. He has little experience in international affairs. He must walk the tight-rope between the Soviet Union and the People's Republic of China to keep their support in the country's efforts to unify the Korean Peninsula. This problem is compounded by the fact that China has told North Korea that it will not tolerate any activity which might disrupt their new relations with the U.S. The Soviets have been more supportive in recent times but still have some doubts as to Kim Chong-il's ability to rule his country. The Soviets have also informed North Korea that they are less than pleased over the establishment of a dynasty in a Communist country.

Kim Chong-il's position at home is far from secure as well. Serious opposition may quickly surface as soon as Kim Il-song is no longer available to shield his son. Kim Chong-il has made many enemies over the years, not the least of whom is Kim Song-ae, his stepmother. She wields a considerable amount of influence and is not hesitant to use it against her stepson. She snubs him publicly and because of her position, he is unable to retaliate.

He also faces a growing threat from Kim Yong-chu, his father's younger brother. Kim Yong-chu was ousted from the power heirarchy in the mid-1970's following the emergence of Kim Chong-il as the heir apparent. Since that time, he has performed only administrative affairs, exercising no influence in the country's party operations. He is reported to be gathering clandestine support and in September 1981 a group of workers, loyal to him, were bold enough to attack Kim Chong-il during a visit to an industrial plant in suburban Pyongyang. Kim Chong-il suffered a slight head injury and has since received added personal protection.

His country's technocrats are another serious threat facing Kim Chong-il. In the early 1970's, Kim Il-song gathered North Korea's brightest young men to help solve the country's financial woes. North Korea's economy is in shambles and the country is having difficulty obtaining credit because of its inability to pay debts. Most countries now deal with North Korea on a cash only basis. These technocrats advise a course of fiscal responsibility as the only solution to the problem. This is in direct conflict with the militaristic goals of Kim Il-song. This group of men represents a growing influence in the country even to the point where they speak openly of economic cooperation with the west. Kim Chong-il will be forced to deal with them should he attempt to continue his father's irresponsible economic policies which have had such a dire effect on the country.

Kim Chong-il's most immediate threat, however, is from the military. Simultaneous with his own rise to power has been that of Gen. Oh Jin-u, the current defense minister. Oh, a former army chief-of-staff, has a considerable power base in the military. He emerged as the second most powerful man in the country following the party congress. Several of his close associates hold key positions in the military. To keep their support, Kim Chong-il must not deviate from his father's policy of

Kim Il-song (left) stands with Kim Chong-il (right), inspecting the Korean War Museum in Pyongyang in February 1976.

neutrality and non-alignment and must continue to maintain a hard line approach to South Korea.

Seoul's biggest fear is that Kim Chong-il may eventually be forced to take some type of definitive action to consolidate his position or to prove to the Communist world that he is qualified to follow his father. This may entail achieving something his father did not, namely, the unification of the Korean Peninsula. Seoul's fears are grounded considering North Korea has the world's fourth largest army. South Korea's economic prosperity allows it to continue its defense buildup and in a few years should be a military match for the North Korean People's Army. Seoul knows North Korea is aware of this situation and fear they may act before military parity makes unification by force impossible.

Kim Chong-il will find that following the "Greatest Hero in the History of the World"[3] is no mean task. His succession could trigger a period of internal strife which may result in serious consequences for South Korea, Japan and the United States. Whatever else the future holds, the ascendency of Kim Chong-il to the presidency of North Korea ensures a new era of instability and unrest in the "Land of the Morning Calm," Korea.

Footnotes:

1. **The Son Also Rises,** The Institute for North Korean Studies. Seoul, Republic of Korea, p. 20.
2. Ibid., p. 24.
3. Ibid., p. 45.

Capt. Michael A. Fox is assigned as a liaison officer, National Liaison Team, 501st MI Group, Republic of Korea. He has served as commander, Headquarters and Headquarters Company, Experimentation Support Command, Fort Ord, Calif.; counterintelligence officer, 205th MI Detachment, Frankfurt, Germany and assistant S2, V Corps Artillery, Darmstadt, Germany. He is a graduate of the Counterintelligence Officers Course and the MI Officer Advanced Course.

THE HISTORY OF THE 66TH MILITARY INTELLIGENCE GROUP

by Mr. Danny Johnson

The 66th Military Intelligence Group began its history on July 1, 1944, when it was activated at Camp Rucker, Ala. as the 66th Counter Intelligence Corps Detachment. The 66th CIC Detachment was attached to the 66th Infantry Division and assigned to IX Corps. The 66th was relieved from assignment to IX Corps and assigned to XXIII Corps in September 1944.

The 66th CIC Detachment did not remain long at Camp Rucker. On Nov. 23, 1944, the unit departed for the New York Port of Embarkation at at Camp Shanks, New York for overseas shipment. The unit shipped out for England aboard the "Brittanic" arriving in Southampton on Dec. 12, 1944. After a short period of training, the 66th CIC Detachment arrived in France on Dec. 27, 1944. Once in France, the 66th Infantry Division came under the control of the 12th Army Group. The mission of the 66th Infantry Division was to contain the enemy near the St. Nazaire and Lorient pockets. Refugees in these areas needed thorough screening, and food and shelter. The 66th CIC Detachment served in France and Germany until the end of hostilities. After a brief tour of occupation duty the unit departed for Marseilles, France in June 1945. The 66th Infantry Division was assigned the task of guarding the staging areas while troops returned to the United States. Finally, the 66th CIC Detachment departed France aboard the "USS Exchange" for the United States on Oct. 30, 1945. The unit arrived at the NYPE on Nov. 10, 1945 and was inactivated at Camp Kilmer, New Jersey two days later. The 66th CIC Detachment is credited with participation in the Northern France campaign during World War II.

The 66th CIC Detachment was reactivated in Stuttgart, Germany, on Nov. 10, 1949, and assigned to U.S. Army, Europe. The 7970th CIC Group was discontinued and the 66th CIC assumed its functions and personnel. Upon activation, the mission of the 66th was to perform counterintelligence for the Commander-in-Chief, European Command. The organization was divided into 12 Regions. Stuttgart Region I; Heidelberg Region II; Frankfurt Region III; Munich Region IV; Regensburg Region V; Nuremberg Region VI, Bayreuth Region VII; Berlin Region VIII; Berman Region IX; Bad Wildungen X; Wurzburg Region XI, and Augsburg XII. The 66th CIC Detachment was reorganized and redesignated in December 1952 as the 66th Counter Intelligence Corps Group and remained assigned to U.S. Army, Europe. By July 1953, the 12 Regions had been reduced to seven.

In December 1955, the 66th Group was termporarily designated as the 7945th USAREUR Liaison Group which later became the U.S. Army Liaison Group Europe which was deactivated in January 1960. The 66th Group was never really redesignated. In May 1956, the 66th Group was further reduced from 7 Regions to 4. In January 1958, the 4 Regions became Detachments A, B, C, and D.

In November 1959, USAREUR divided the counterintelligence and field operations intelligence/area intelligence missions on a geographical basis between the 66th Group and the 513th MI Group. The 513th Group had the area of northern Germany including Berlin and the 66th had the southern area of Germany. In January 1960, the 66th reorganized and redesignated as the 66th

Military Intelligence Group. In July 1961, the 66th MI Group was redesignated the 66th Intelligence Corps Group. The 66th was again designated the 66th Military Intelligence Group which remained assigned to U.S. Army, Europe and Seventh Army.

Due to reorganizations and consolidation of intelligence resources in Europe, the 66th was relocated from Stuttgart to Munich in September 1968. Between 1968 and 1969, the 66th took over the personnel and missions from the 513th MI Group. The formal inactivation of the 513th took place on June 25, 1969 at Munich. The 66th took over the facilities formerly held by the 513th in Munich.

The 66th MI Group was relieved from assignment to U.S. Army, Europe and Seventh Army and was assigned to U.S. Army Intelligence and Security Command in February 1977, as part of a worldwide reorganization of Army Intelligence resources.

Headquarters, 66th MI Group is currently located on McGraw Kaserne in Munich. Elements of the 66th MI Group are located in 63 cities in eight European countries.

Units assigned to the 66th MI Group include the 18th Military Intelligence Battalion also located in Munich. The 511th Military Intelligence Battalion is located in Nuremberg with elements in Northern Bavaria and Baden-Wuerttemberg. The 527th Military Intelligence Battalion is headquartered in Kaiserslautern. Detachment D, 66th MI Group is stationed at Caserma Ederle in Vicenza, Italy. The 165th MI Battalion is located near Frankfurt. The 766th MI Detachment is located in West Berlin. The 502d Intelligence and Security Battalion is located on Flak Kaserne in northwest Augsburg.

Danny Johnson is a Reserve captain and is a manpower specialist with the Directorate of Intelligence Resources Management, OACSI at the Pentagon.

66th MI Group Crest

The hexagon within a hexagon represents the 66th MI Group's numerical designation. The gold and blue interior chequer symbolize the unit's tactical and strategic capabilities. The exterior hexagon is in black and white, symbolizing enlightment and knowledge day and night throughout the world. The sphinx, a traditional intelligence symbol, represents observation, wisdom and discrete silence.

U.S. Army Intelligence and Security Command Patch

The quartered shield represents the four primary intelligence functions of collection, analysis, production and dissemination of information. The gray and blue quarters signify determination and loyalty. The lightning bolt stands for communications, while the torch represents knowledge and vigilance. The double-webbed key symbolizes security and control. Gold and silver (yellow and white on the patch) stand for achievement and energy.

Officer Notes

ORB: The Army officer's resume

by Lt. Col. John C. Eberle

"Officer Record Briefs were found to be *extremely* important, particularly in screening," said members of a recent DA Selection Board. In a sense, the Officer Record Brief has become the Army officer's resume. Commanders and supervisors use the ORB to get an impression of an officer's qualifications for a duty position. DA Selection Boards use the ORB to establish initial impressions of an officer's potential for promotion, schooling and command. Assignment officers use the ORB as an aid in finding officers qualified to fill positions and in making other important professional development decisions.

Based upon comments from every recent DA Selection Board, there are still many who need to get our "resumes" in better shape.

Over the years officers have criticized the ORB system because of the difficulty in making changes. Though there may be many that have tried unsuccessfully to make ORB changes; there are a significant number of officers who have succeeded based on the quality of their ORBs. If the number of letters and phone calls before the selection boards is an indicator, it appears that many officers avoid serious involvement in getting their ORBs updated until it becomes a problem. DA Pamphlet 600-8, Procedure 5-1, is the ORB correction bible. Copies of this pamphlet should be available in your unit's personnel administration center and at your local military personnel office. You should read it. It will take about 10 minutes.

Much like any task that you try to get someone else to do, ORB correction takes personal involvement and follow-up. HQDA sends a copy of your most recent ORB to your MILPO three times a year. The ORB received in your birth month is the audit ORB and must be audited by you. Your signature on the audit ORB attests that the data on the ORB is correct, or that you have indicated what data changes must be submitted by the local MILPO. The other two ORBs will come at four month intervals following the audit ORB and should be used by you to check that the changes you indicated were made.

You don't have to wait until your audit ORB arrives to make changes to your ORB. Changes may be made through your MILPO anytime during the year.

Before addressing specific procedures, let's talk about where the data comes from that is printed on the ORB. When an officer comes on active duty, a record of his or her entry on active duty is made on an automated data base called the Officer Master File, located at the U.S. Army Military Personnel Center in Alexandria, Va. The data which is entered on each officer at active duty time is sketchy until the officer arrives at his or her first duty station. Here, the local MILPO sends a copy of DA Form 2 and 2-1 to MILPERCEN where the record is completed to the extent possible. Once data is entered on the data base, it is maintained until some action either at HQDA or through a Standard Installation/Division Personnel System causes the data to change. The data that you see printed on your ORB is a copy of the data that is stored in your automated record on the OMF.

Some data displayed on the ORB is the exclusive responsibility of HQDA to update directly to the OMF. Other data can only be updated through SIDPERS transactions which are transferred to HQDA via AUTODIN. If one of the data elements on the ORB listed in Table 5-1-1, DA Pam 600-8, needs updating by HQDA, have your MILPO send a letter to the appropriate agency as listed in the Correction Procedure column of the Table. Make sure that you provide adequate data for the MILPO to validate your requested change. Usually, sending the request for change through the MILPO to HQDA, rather than directly to HQDA, is the best way. If there is a change in the procedure, the MILPO is more likely to know about it. If there is a problem with the update procedure, the MILPO chief can bring it to the attention of HQDA to get the problem fixed.

Each item on the ORB is important, but those items most often noted as being inaccurate by selection boards are military education level, civilian education level, height/weight and assignment history.

Officers need to get involved in changing their ORBs. There may be problems, and every change may not "take" on the first try. If you submit a change that does not show up on the next ORB you receive, follow up on it. Force the issue. Get your commander involved if you have to. If you are getting close to a selection board and have not succeeded in getting changes made which you feel are important, write to your assignment officer, or call if time is short.

At the same time, go to your MILPO and submit the changes once more. The assignment officer will change those items that are HQDA changeable items, and he or she will post the ORB which goes before the selection board with the handwritten changes as you indicated in your request.

Remember two things: first, your ORB is more important to you than to anyone else, and second, if your ORB does not represent clearly what you have done and who you are, it will not change unless you get directly involved in the process.

Lt. Col. John C. Eberle is currently the Information Resource Management Officer, Officer Personnel Management Directorate, U.S. Army Military Personnel Center.

Enlisted Notes

CMF 33 MOS division proposed

The U.S. Army Intelligence Center and School, as a result of an occupational and task analysis of career management field 33, has proposed that the CMF be divided into six military occupational specialties vice the single MOS that exists now. This will be the first revision of CMF 33 since 1975 when its present organization became effective.

The revision that TRADOC has proposed consists of the CMF 33 being divided into five new MOS plus the supervisory (capper) 33Z MOS. The revision provides that there would be four entry level MOS with a merger MOS entered at grade E-5.

The MOS designations are driven by the types of equipment that the soldiers would be working on, divided into two major groups, mobile (tactical) or fixed station (strategic) operations.

The tactical MOS would be: 33T, EW/Intercept Tactical Equipment Repairer, who would be responsible for the ground based systems in Combat Electronic Warfare and Intelligence units, and 33R, EW/Intercept Aviation Equipment Repairer, who would be responsible for the aviation systems used in support of aerial intelligence units.

The strategic MOS would be: 33Q, EW/Intercept Strategic Recorder Demultiplex Equipment Repairer, who would be responsible for recorders, multiplex, and demultiplex equipment to include associated audio, video, and recorder control equipment; 33P, EW/Intercept Strategic Receiver DF Equipment Repairer, who would be responsible for on-site and off-site strategic receiver and direction finder equipment to include radio frequency and antenna equipment; and 33M, EW/Intercept Strategic Command Control Equipment Repairer, who would be responsible for on-site and off-site command/control equipment (E-5 entry level).

The TRADOC approved proposal is currently at the Soldier Support Center, National Capital Region in Alexandria, Va. for MACOM and DA staffing. If the proposal is approved by June 1983 the implementation cycle for military occupational classification changes will then be started. It would then take until March 1985 to complete the implementation phase.

If you have any questions, call SFC Rice, 33S Professional Development NCO, MP/MI Branch, MILPERCEN AUTOVON 221-9542/0415.

New 96D30 Imagery Analyst Basic Technical Course developed

In keeping with force competency, Army Training 1990 and the need to ensure that the Army NCOs are well trained, USAICS has developed a basic technical course for skill level three 96D Imagery Analysts.

The course is designed to provide SL3 96Ds with the training and skills necessary to function as a tactical surveillance noncommissioned officer and perform collection management duties at tactical and national levels.

Students will receive training in CM+D, Threat analysis, tactical IMINT operations and management, national collection management and other selected subjects. The first iteration of this course is scheduled for January 1985. Selection for attendance will be made at DA level. Students are required to possess a Top Secret security clearance.

Iverson named top USAICS instructor for 1982

SFC David W. Iverson has been named Distinguished Instructor of the Year for 1982. Iverson, currently assigned to the Imagery Exploitation Division, Department of Surveillance Systems and Maintenance, teaches courses in Tactical Imagery Interpretation Operations, Collection Management, Tactical Forces Identification, and Advanced Soviet Ground Forces. A native of California, Iverson has been in the Army for 11 years. His assignments include an 18-month tour in Vietnam. He came to USAICS in September 1980 from an assignment with the 2nd MI Battalion, Detachment C, RAF Alconbury, England. Iverson was Instructor of the Month for February and November 1982.

"Being an instructor is hard work," Iverson said. "It demands a lot of the individuals that teach in both time and energy. As an NCO, it's worth it to see the students learn and to know that there will be a certain degree of competence in the field when you get there."

As Instructor of the Year, Iverson was honored at a banquet in January, was presented an Army Commendation Medal, and received numerous prizes from local merchants.

OPFOR

REALISM IN TRAINING

Several hundred meters before arriving at line "Tanya" the OPFOR began receiving heavy anti-tank and artillery fires from the Blue Force, which had apparently been forewarned of the attack. Doggedly, the OPFOR commander kept his subordinate units in columns, moving at the prescribed pace, until they reached the previously designated deployment line. At line "Tanya" the OPFOR units deployed into preassault formations and continued their advance—even though suffering heavy losses. When leading units reached line "Natasha," 800 meters from the Blue Force defensive positions, the infantry dismounted and continued to advance, following those tanks which had not been destroyed. The tanks deployed on line, spaced 100 meters apart, and kept their speed down, so as not to outdistance the dismounted infantry. As the attack progressed, it became apparent that the Blue Force was not deployed as had been expected. But the OPFOR commander had his orders; and he would carry them out—to the letter. Though there appeared to be a gap in the Blue Force defenses off to the right, the OPFOR continued to drive straight ahead, determined to overwhelm the defenders—or die trying.

During the after action review, it was agreed by all concerned that the OPFOR had conducted its attack "by the numbers," strictly according to the tactical doctrine of the Soviet model. By making maximum use of terrain features, "shooting and scooting," and anticipating the predictable actions of the OPFOR, the Blue Force had destroyed the OPFOR—even though the OPFOR had begun the exercise with a 4:1 numerical advantage. The Blue Force commander, and all his officers and troops were confident they would be just as successful against a real Soviet or Soviet-styled adversary. Predictability and inflexibility are aspects of Soviet tactics which are often overemphasized—sometimes to a ridiculous degree (as in the fictional engagement described).

It is true that Soviet doctrine stresses rigid command and control procedures. Extensive, detailed preplanning and strict adherence to orders are emphasized. Once operations have been initiated, they are difficult to alter. (The degree of difficulty varies, of course, with the size of the force involved.) The exercise of "initiative" might be described from the Soviet point of view as: "continuing to carry out orders and attempting to accomplish the assigned mission when there is no one around to compel such actions."

This does not mean, however, that the Soviet commander is completely without options. For example, what is initially a supporting attack could have unexpected success and become the focus of the main effort, receiving increased support. Soviet tacticians understand that, on a fluid battlefield characterized by rapidly changing situations, conforming strictly to a predetermined scheme of maneuver and timetable can be tantamount to suicide. This is not so much at odds with the Soviet penchant for adherence to plans and orders as it might seem. The Soviet approach to flexibility in tactical operations is not to grant a great deal of discretionary authority to subordinate commanders, but to attempt to anticipate, and plan for, a variety of developments. During initial planning, commanders and staffs develop detailed plans for various tactical options. The commander can then activate one of these "contingency plans" by using a prearranged signal, or a subordinate commander may be authorized to implement an alternate plan, given a specific set of circumstances.

It is when confronted with a situation which could not reasonably have been anticipated that real problems could be expected to occur. But even then, it must be assumed that a desire to survive will affect the Soviet commander's actions to some degree. Soviet leaders recognize that the requirement for flexibility is inherent in the type of warfare they anticipate. The Soviet model must not be portrayed by the OPFOR as a mass of lemmings being led into the sea by robot-like commanders.

Questions, comments or suggestions regarding OPFOR articles should be addressed to: Commander, USAICS, ATSI-TD-CTO (ATTN: Mr. Lovely), Fort Huachuca Ariz. 85613.

What is a DSDIC?

There is a new course of instruction being developed at the U.S. Army Intelligence Center and School, Fort Huachuca, Ariz. "DSDIC" is the acronym to describe the course title, *"DOD Strategic Debriefing and Interrogation Training Course."*

This course is being developed to improve the capabilities of personnel involved in the acquisition and exploitation of strategic intelligence from foreign and domestic sources and associated documents. This course will serve as advanced training for DOD military and civilian personnel from each of the Armed Services, and for personnel from other agencies as required.

The first iteration of the course is scheduled to begin Aug. 1, 1983, with a course length of five weeks, four days. Maximum student capacity per class is 12, with a total of nine iterations scheduled through fiscal year 84. Additional information regarding the DSDIC can be obtained from USAICS, ATTN: ATSI-TD-DDR (Mr. John A. Dalton), Fort Huachuca, Ariz. 85613. AUTOVON 879-3254/3047.

Research and Development

Communications jammer termed 'gun-rugged'

Successful engineering tests were conducted recently on the artillery delivered expendable communications (barrage) jammer. Developed by the Army Electronics Research and Development Command's Signals Warfare Laboratory, the jammer was found to be gun-rugged and safe to fire.

During tests, at Yuma Proving Ground, Ariz., jammers were loaded into 155mm cargo rounds and fired from howitzers at various ranges.

"The concepts and hardware were demonstrated successfully," said Mr. Howard Phalan, a jammer project leader. According to Phalan, "the expendable jammer will significantly influence the battle planning of the future. Nearly every type of communications may be disrupted by this system."

Mr. Joseph W. Miller, a project engineer on the jammer, pointed out that the jammers are less susceptible to detection than those now in the field and are much less expensive to produce. "Artillery crews can carry them with other types of rounds," he said.

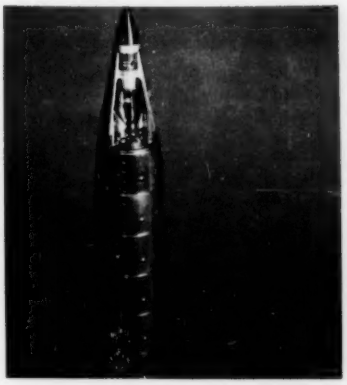
Several jammers are loaded into each round. During flight, the base plate of the round is blown off, and the jammers are ejected from the round one at a time, according to preset timers.

As the jammers, or pucks, clear the projectile, de-spin fins are deployed by centifugal force and a streamer is released. The fins de-spin the jammer while the streamer provides a righting force to orient the puck.

The puck impacts at a velocity of about 130-feet-per-second and is imbeded one to three inches into the ground at the proper angle. The antenna/ground plane is then deployed and within seconds the transmitter is automatically turned on and the jamming begins.

The next series of tests at Yuma will involve testing 1,000 jammer units. Phalan said these formal developmental and operational tests would take place late in fiscal year 1984.

Reprinted from Army Research, Development & Acquisition Magazine, January-February 1983



Artillery-delivered communications jammer

Hawk inflatable decoys tested

It looks like the real thing. It has the same size. It even gives off a signature similar to the real thing. So it must be the real thing then, right?

Well, that's what the Army wants enemy intelligence to think when they see the Army's Hawk missile inflatable decoys, which closely resemble the real thing.

"The decoys are meant to confuse hostile groups as to the number and locations of the Army's Hawk missile sites," explained Carlotta Glover, inflatable decoy test director from the Materiel Testing Directorate at Aberdeen Proving Ground, Md. "In a sense, the idea behind the decoys is that the enemy will hit the decoys rather than the actual missile sites."

The decoys have the same size and shape and other features as the actual thing, which is important for identification.

"The electrical blowers which inflate the decoys keep the decoys inflated continually. Once the air pressure inside the decoy reaches 30 millibars above ambient, the blower stops," Glover said. "When the pressure drops to 28 millibars above ambient, the blowers begin operating again."

Currently, the U.S. Army Materiel Development and Readiness Command is evaluating a German-made Hawk inflatable decoy set. Two parts of the set, the launcher with three missiles and the generator, are at Aberdeen Proving Ground for International Materiel Evaluation Phase II technical feasibility testing. Other parts of the nine-piece set are being tested at other DARCOM installations.

MTD is testing the decoy launcher and generator to see if it does what the manufacturer claims it will do. According to the manufacturer, the decoy is easily deployable and retrievable by two personnel within 15 minutes. It is lightweight, with the launcher weighing 134 pounds and the generator 85 pounds. It is also supposed to be good for 300 emplacements and movements.

The electrical blowers are powered by one generator. Once

The fully-inflated Hawk missile decoy has the same size and shape as the real thing. The set, composed of a missile launcher with three missiles and a generator, is part of a nine-piece outfit which simulates a complete Hawk missile unit. The two pieces are undergoing International Materiel Evaluation Phase II technical feasibility testing at Aberdeen Proving Ground. (U.S. Army photo)

inflated, the decoy is made to withstand 20 inches of snow, temperatures ranging from -65 to 105 degrees Fahrenheit, and maximum wind speeds of 30 knots.

Maintenance of the decoy set is expected to be minimal. Other than the blowers which might need repairing, the only other repair work required would be to the zippers on the decoy. The material is easily patched if it gets a hole in it.

"The first four weeks of our testing consisted of performing three erectings and dismantlings a day," Glover explained. "We went through the whole process and determined how long it took two people to set up and take down the decoy. We also determined the difficulty of each task involved," she explained.

"The hardest thing we found was getting all the air out of the decoy when it was deflated so it could be folded back into its package," she noted.

Presently, the Test and Evaluation Command is reviewing the recent test before deciding how further testing of the decoy will be performed. (APG PAO Release)

Applique' Jammer goes into production

The U.S. Army Electronics Research and Development Command has awarded a $6.1 million contract to American Electronic Laboratories, Inc., of Landsdale, Pa., to produce transportable jeep-mounted jammers (Applique' Jammer).

Under the terms of this first production contract—won after competitive negotiations—the firm will deliver 227 jammers by January 1986.

The Army will use the jammers to train radio communications operators in a tactical electronic countermeasure environment.

The Applique' Jammer evolved from the Forward Applique' Jammer (AN/VLQ-4) prototype, developed jointly by the Electronic Warfare Laboratory and the Technical Support Activity at Fort Monmouth, N.J. Both are elements of ERADCOM. (ERADCOM PAO)

Combined Arms and Services Staff School explained

The Combined Arms and Services Staff School is designed to train officers to function as staff officers with the Army in the field. The school began operation in fiscal year 81, and full implementation is planned in fiscal year 85. Upon full implementation, all captains will attend CAS^3.

Officers should meet the following criteria before participation:

a. Be in grade of captain.

b. Have completed the officer advanced course.

c. Have completed no more than nine years of AFCS.

All officers in year group 77 and after (e.g., year group 78, 79, etc.) will be required to attend CAS^3. Captains in year group 76 and year group 75 are not required to attend but are encouraged to participate if quotas are available.

The CAS^3 course consists of two phases. Phase I is the nonresident portion taken through the home study method. Phase II, the resident phase, is nine weeks in length and is conducted at Fort Leavenworth, Kan.

All officers attend in TDY status funded by MILPERCEN. Officers in CONUS can attend either TDY and return to their unit or TDY enroute to a new assignment. Captains stationed overseas will normally be programmed upon return to CONUS. The nine week resident sessions are currently scheduled to begin July 7, 1983, Oct. 3, 1983, Jan. 5, 1984, Mar. 15, 1984, May 24, 1984, and Aug. 2, 1984.

For additional information or for scheduling, officers should contact the Professional Development Officer, MI Branch, AUTOVON 221-0143/0144.

USAICS Notes

RETO-designed MIOBC

The new Military Intelligence Officer Basic Course commencing October 1983, is the result of a host of efforts conducted at the U.S. Army Intelligence Center and School since 1979, including the Review of Education and Training for Officers and a major relook at MI organizations and operations.

Twenty-four weeks in length, the new RETO-designed MIOBC includes the combined arms subjects taught in the Officer Basic Course and intensive instruction in Tactical All-Source Intelligence Production, an expanded 35A course. This new MIOBC reflects the widespread need for a thorough foundation in all of the products, services, and capabilities of the intelligence community and will produce a well balanced MI lieutenant who can clearly articulate intelligence requirements, task appropriate systems and understand the entire spectrum of intelligence assets available to the tactical commander The MI lieutenant emerging from the new MIOBC will be capable of performing either as an intelligence staff officer or as a MI ground surveillance radar or collection and jamming platoon leader.

Most MI lieutenants will go directly to tactical assignments upon graduation from MIOBC. A few may require additional training to satisfy echelon above corps requirements.

Subsequent articles will describe changes to MI officer accession and career progression and the new RETO-designed MIOAC and specialty courses.

MIWO Education

During the past 18 months, members of the MI Warrant Officer Branch, at USAICS, have reviewed end-of-course critiques dating as far back as 1979. Additionally, during this period, students from the MIWO advance course for classes 81-C32-2, 82-C32-1, 82-C32-2, and 83-C32-1 have been interviewed to obtain comments on the current advance course and MIWO military education system. Their comments and EOCC are fairly critical of the current course and the education system.

As a result of the EOCC and the comments of the students (who, by the way, have an MIWO MOS among the 13 MOSs for which MIWO Branch has proponency) a new educational concept is being developed for MIWOs. The concept is one that provides the right training at the most opportune time. Basically, proposed MIWO educational architecture will:

- Provide entry training in the All-Source (multi-disciplined) environment immediately after appointment.
- Send MIWOs to the field for utilization tours with the options (based on assignment needs) to attend functional schooling at institutions other than USAICS, (DIS, DIA, NSA, DLI, TWI, etc.).
- Bring MIWOs (after three to nine years WO service) back to USAICS for the MIWO advance course which will update these MIWO in the state of the art, (emerging doctrine, tech changes, systems advances, etc).
- Send MIWO back to utilization tours (again with options of functional training to meet needs of assignments).
- If selected, MIWO will complete the WO senior course by residence training or correspondence.
- Send MIWOs back to utilization tours (again with optional functional training based on need) until career termination.
- Be fine tuned as results of MIWO RETO efforts are known.

Essentially, the concept will save money and time spent in the schoolhouse; and time from which the Army can benefit by having MIWOs performing their duties on station.

BTT designed to help, not hinder MI units

The Directorate of Evaluation and Standardization, USAICS, is undergoing an extensive reassessment, of its missions and goals. As part of this reassessment. an external evaluation program has been established. The major thrust of the external evaluation lies in the performance of the Branch Training Team.

In 1979, TRADOC directed all service schools to establish teams to visit units in the field. These teams would provide information on current school products and activities, and gather feedback to further enable the schools to meet the needs of the commander in the field. After a successful test of this program, the Branch Training Team Program was formally established.

The BTT is an important vehicle for providing the necessary interface between the MI units in the field and USAICS. The BTT consists of representatives from each of the major directorates who provide a series of briefings to the units visited. These briefings are designed to inform the MI community of activities that will impact on the MI soldier both in the present and future, and include such topics as the new MI Officer Basic Course, ANCO course development, new SQT testing, the 97B10 program, AirLand Battle 2000, FM 34-1, and new courses being developed or currently given at USAICS.

After the briefings, members of the BTT meet with various members of the unit to discuss training problems and to conduct specific MOS or subject area surveys. It is here that the mission of the BTT is usually misunderstood. It is not meant to be an evaluation of the unit visited. Scorecards are not kept, and failures are not considered to be "gigs." Rather, problems experienced in relation to training are discussed and possible resolutions proposed. Any question or problem which cannot be answered on the spot is handled in one of two ways. The problem can be recorded and taken back to the appropriate directorate at the school for action, or the

BTT member can call back to the school for immediate answers. Just as important as handling problems is the experience gained from successful unit training programs. These successes can be used to help other units remedy problems they may be experiencing.

In short, the BTT is an important interface between the field and the school. It is vital that school action personnel know and understand the current needs of MI units, and what the units and MI personnel expect from USAICS. Comments, suggestions, and proposed changes are solicited. For the Intelligence Center and School to be successful, this two-way communication network must be supported. The school must be made aware of these problems as they happen, so that the required support can be provided to field commanders to insure that they are ready to support the AirLand Battle. To facilitate this support, a hot-line is available for communicating with the school. Questions, suggestions, or problems can be directed to Fort Huachuca, 24 hours a day, on AUTOVON 879-3609; or Fort Devens, duty hours only, to AUTOVON 256-3474/3177.

BTT's are scheduled to visit certain units, both active and reserve, in fiscal year 83. MI units can request a BTT visit, if not already scheduled, by contacting the Directorate of Evaluation and Standardization at either Fort Huachuca or Fort Devens. Units may also request assistance in the form of training material, individual instructors, or training teams to help the units resolve a particular problem. It is envisioned that this type of communication will insure that all military intelligence soldiers receive the proper training to support the AirLand Battle.

Officer photographs

The governing regulation for photographs in military personnel files is AR 640-30. Following is a synopsis of information pertaining to photographs.

Each person promoted to first lieutenant will have a photograph made within 60 days. There is no requirement for a second lieutenant to have a photograph.

Each lieutenant colonel, major, captain, and first lieutenant will have a photograph taken every fourth year during their month of birth.

For example: a first lieutenant whose birth month is January and whose last photograph was taken during August 1980 will have the next official photograph taken and forwarded in January 1984 and in every fourth January after that.

Male personnel will wear the Army green uniform with basic branch insignia, all permanently authorized ribbons, badges, and tabs correctly displayed. The shoulder sleeve insignia (patch) and distinctive unit insignia. (crests) are the only authorized deviations from this rule. Low quarter shoes will be worn.

Female personnel will wear the Army green uniform (coat and skirt) or the Army green pantsuit uniform (jacket, shirt, and slacks) with basic branch insignia, all permanently authorized ribbons, badges, and tabs correctly displayed. The shoulder sleeve insignia (patch) and distinctive unit insignia (crests) are the only authorized deviations from this rule. Black pumps will be worn; however, low quarter shoes or jodhpur boots may be worn with the pantsuit uniform.

Special Electronic Mission Aircraft training

USAICS is developing and implementing seven MI aviation track courses in response to the Army chief of staff's tasking "to develop and implement a formal program to qualify SEMA aircrew members in all SEMA systems and mission profiles." The objective of the course is to train the MI aviator (15M, 100A, 100Q, 100R) whose professional development includes the operational skills of an aviator and training as an MI officer in the specific aircraft systems he will be required to manage, operationally employ and command at division, corps, and EAC.

The MIATC was designed and developed for implementation in two phases. Phase I includes a three week program of selected aviation subjects common to all SEMA and provides basic knowledge of all SEMA platforms and systems. It is presented to MI personnel, both rated and non-rated, on orders to a SEMA equipped unit. Phase II provides a variable length program of SEMA systems specific subjects. It is presented to rated MI aviators on orders to a SEMA equipped unit. It also provides the MI aviator with in-depth knowledge of a particular SEMA platform and system. The track course titles, length and start dates are as follows:

Track A-OV/RV-ID (Mohawk) systems qualification track course/ 6 weeks/May 1984

Track B-RU-21H (GUARDRAIL V) systems qualification track course/ 4 weeks, 2 days/May 1984

Track C-EH-1H/1X (QUICKFIX) systems qualification track course/ 4 weeks, 2 days/May 1984

Track D-RC-12D (Improved GUARDRAIL V) systems qualification track course/4 weeks, 2 days/ August 1984

Track E-EH-60A (QUICKFIX II) systems qualification track course/ 4 weeks, 2 days/November 1984

Track F-RC-12D (Common Sensor) systems qualification track course/4 weeks, 2 days/May 1985

Track G-SEMA-X systems qualification track course/unknown/1994

Counterpoint

Counterpoint is designed to give you, the MI practitioners in the field, an opportunity to voice your opinions and be heard by the MI community. In the January-March 1983 issue, we presented this question to our readers, "If intelligence is 'one of the main equalizers' for the AirLand Battle, are we prepared to meet the IEW challenges?" Here are some of your responses:

No. Collection technology is behind. Some units are still using 30-year old equipment targeting five-year old equipment. The procurement cycle on new EW equipment is simply too slow. "Coming down the pike" and "available in the next few years" are not as good as equipment ready to use.

1st Lt. James Droeae
Co. F, USAICS

The key to AirLand Battle success is deep interdiction with future weapon systems like the corps support weapon system. Although we are trained to develop intelligence for the commander, we are not trained to develop targets for interdiction. The two are completely different methodologies with different thought processes required for each. The artillery does not have organic means that range out to 150 kilometers (the postulated range of COMSEC Warning/Simulation Study) therefore, it will be the intelligence officer's responsibility to locate high value targets for specific situations. We are not up to speed in the target development process.

1st Lt. Ed Hillenbrand
Co. F, USAICS

No, we are not. CEWI does not work. Units are used not according to TOE, but according to need. We need a division support company with organic service support. The normal Army supply system is not capable of supplying parts for EW peculiar equipment. We need our own supply system. Reform ASA but have DSC's assigned to the division they support. SIGINT should come under national authority and not localized. We would then benefit from all intercept going in the hopper instead of ratholing and stand alone analysis. We do not need CEWI to cure the "Green Door" problem, it could have been done with ASA intact. All other NATO countries have their EW and SIGINT units under national authority, assigned to the tactical unit they support and it works that way. With ASA, intercept is collected and can be provided to all with each unit assisting the other. With CEWI, SIGINT analysis stands alone. Collection is directed by the G2 and division commanders with no SIGINT expertise. SIGINT skills are hard to keep in CEWI battalions without the benefit of ASA training programs.

Capt. Phillip Basinger
Co. F, USAICS

Main equalizer? Yes. Are we prepared? Not yet. Although our collection efforts are adequate our ability to manage and disseminate intelligence is lacking. Especially lacking is our ability to get timely intelligence to brigade commanders and below.

Capt. Rocky K. Nielsen
Co. F, USAICS

Tactical U.S. intelligence units are not prepared to meet the current and evolving IEW challenges. An inordinate amount of valuable training time is spent supporting maneuver and suport unit ARTEPS meeting the increasing demands of required military training, "nursing" old equipment in the motor pools and repair shops and conducting mission related training in a doctrine vacuum. We in the intelligence community must stand our ground and drive our wartime training requirements into personnel qualifications and equipment procurement, not into our respective division training schedules. Concurrently, and of most immediate importance, we must develop our tactical doctrine.

Capt. Robert E. Birdwell
Co. F, USAICS

At this point, many MI battalions (CEWI) cannot meet the challenge and provide the commanders with an in-depth view of the battlefield. Due to critical shortages of non-commissioned officers in grades E5-E7 and modern equipment, the battalions are severely impaired. Until we get the people and equipment required, we will continue to disappoint the combat arms commanders we support.

Lt. Col. Byron K. Dean
Commander, 102d MI Bn (CEWI)

Combined services operation is critical to success on the AirLand Battlefield. "At what point are we now in achieving total coordination/cooperation at the joint level and with what results?"

The theme for the October-December issue of MI Magazine is "Emerging Technology in Support of Intelligence Operations." Manuscripts are due no later than September 1, 1983.

USAISD Notes

Developments in SIGINT/EW instruction

by Capt.(P) Ralph P. Spinelli, Jr.

During fiscal year 1983, major changes have been made in both the Advanced Noncommissioned Officers Course (230-F1) and the Basic Technical Course common annex to update and upgrade tactical SIGINT/EW instruction. The ANCOC Course has expanded CEWI/EW operations subjects to 64 hours which includes a two-day practical exercise conducting division-level and below intelligence operations. This instruction is designed to prepare an NCO to be a platoon sergeant, first sergeant or operations sergeant. The BTC program of instruction now includes 19 hours of CEWI/EW operations. The ANCOC program began with class 01-83 and the BTC was initiated with class 02-83.

Training innovations at USAISD

SSgt. Jesse Jewel and Sgt. Timothy Stark

The United States Army Intelligence School Fort Devens has embarked on a bold new training strategy that overcomes many limitations imposed by instructors, student ratios, classroom environments, equipment and system availability, and logistical support.

USAISD conducted extensive research and media analysis in its continuing efforts to achieve optimum cost and training effectiveness. Through this research and analysis it has been concluded that use of training devices (which include computer assisted instruction trainers, simulators, stimulators, and interactive video disc), would prove to be the most advantageous method of meeting these equipment and systems learning requirements.

There are significant advantages gained through the employment of training devices. Training devices have demonstrated an unsurpassed record in past training performance applications. Training devices have the capability of incorporating major product improvement packages to fielded systems and the capacity of allowing for technological advances on developmental equipment and systems. Additionally, the use of training devices and simulators allows systems and equipment presently used for training to be released for field use.

USAISD is incorporating the use of training devices and simulators in selected aspects of its instructional programs. Due to the capabilities of devices and simulators they are, easily and cost effectively, being integrated into all levels of signal intelligence and electronic warfare training. The Morse intercept operator course at USAISD is currently being updated with the acquisition of a new computer assisted instruction training device. The Morse intercept position simulator, the replacement Morse code trainer, has a scheduled initial operational capability at USAISD for the first quarter of fiscal year 1984. This trainer, a complete instructional system, will significantly enhance Morse training and administrative management. The implementation of this trainer will give more students a clearer perceptual knowledge of Morse code and will result in a lower attrition rate in the course.

As newer, more technically demanding SIGINT/EW systems are fielded, training requirements for those systems become increasingly more difficult for the school to satisfy. One solution to this ever-growing problem is the use of a generic trainer capable of simulating several such systems. The SIGINT/EW equipment operator simulator encompasses the critical operator tasks to be trained for the following eight SIGINT/EW systems: AN/USD-9 GUARDRAIL V, AN/FSQ-88 LeFox Green/Purple, AN/TSQ-114 TRAILBLAZER, AN/ALQ-151 QUICKFIX W/DF, AN/ALQ-133 QUICKLOOK II, AN/MLQ-34 TACJAM, AN/TSQ-130 TCAC(D), and AN/TSQ-134 ITEP. The cost and training effectiveness of using one classroom trainer to provide instruction for eight systems is self-evident.

After SIGINT/EW operators are trained and assigned to field units, often their technical expertise deteriorates due to the absence of a live mission environment. USAISD has concluded that the best solution to this problem is achieved through the use of a simulator which integrates with fielded SIGINT/EW systems to generate a simulated signal environment through the systems' receivers. The tactical proficiency trainer is a compact training device under development that will have the capability of interfacing with a number of SIGINT/EW systems simultaneously and provide live mission scenarios for operator training in either garrison or field units. The use of the TPT will greatly enhance the capabilities and technical expertise of our SIGINT/EW operators.

Another method of training presently being explored at USAISD is the possible use of interactive video disc. This method of training may be used as an instructional aid, for data storage and retrieval, and as a guide for general maintenance repair. Due to the relatively short development time required for an IVD training system, this training device is being considered for use as exportable operator and maintenance training for all active and reserve component SIGINT/EW units.

There is no single remedy for all training requirements, and the use of training devices and simulators alone will not meet these needs. However, in one of the most critically important areas of the future battlefield, the SIGINT/EW community, it would be most beneficial to the U.S. Army to have soldiers capable of performing these critical technical duties at the highest performance levels possible. The use of training devices and simulators in SIGINT/EW training will assure the accomplishment of this goal while proving to be the most cost and training effective solution possible.

Update on Army-wide training literature at USAISD

USAISD produces Training Literature concerning Signals Intelligence, Electronic Warfare, and Signal Security operations and equipment. Listed below are those publications which are in print and those which are in production. Printed and available to units are:

FM 30-476, Radio Direction Finding, APR 77
FM 32-1, SIGINT, AUG 75
FM 32-6, SIGSEC Techniques, FEB 77
FM 32-9, ELSEC Techniques, AUG 78
FM 32-16, ECM Handbook, JUL 75
FM 34-85, Conversion of Warsaw Pact Grids to WTM Grids, SEP 81
TM 32-220, Basic Cyptanalysis, AUG 70
TC 30-7, Deploying for Man-Portable Operations, MAR 79
TC 30-7, TRAILBLAZER Detection System, AN/TSQ-114, SEP 79
TC 30-8, AN/TLQ-17A, Countermeasures Set, SEP 79
TC 30-18, GUARDRAIL/QUICK LOOK Operations, JUL 78
TC 30-36, AN/MLQ-24, MAR 78
TC 30-47, Tactical Intercept Site Selection, JUN 79
TC 30-49, Quick Fix Operation, SEP 79
TC 30-50, AN/MSQ-103 Operations, SEP 79
TC 34-1, Tactical SIGINT/EW Equipment Reference Guide, APR 80
TC 34-41, Planning Communications Jamming, MAR 81
TC 34-95, Radio Receiving Sets AN/TRQ-30 & AN/TRQ-32, FEB 80

The following are in various stages of production to be fielded in fiscal year indicated:

FM 34-13, MI-BN Leader's Handbook for Platoons and Teams, FY 83
FM 34-51, SIGINT/EW Templating, FY 85
FM 34-62, Signal Security, FY 84
FM 34-85-1, Mideast GK Conversion, FY 83
FM 34-86, Direction Finding Operations, FY 84
FM 34-87, SIGINT, FY 84
FM 34-88, Manual Morse Intercept Operations, FY 84

TC 34-60, AN/TRR-33, FY 83
TC 34-61, AN/TRR-1A, FY 83
TC 34-83, AN/TSQ-114A TRAILBLAZER Operation, FY 83
TC 34-84, AN/TLQ-17A, Countermeasure Set Operation, FY 83
TC 34-90, AN/MLQ-34, TACJAM Operation, FY 83
TC 34-93, AN/TRR-27, Operation, FY 84
TC 34-99, AN/GLQ-33, Operation, FY 84
TC 34-102, AN/TSQ-130, TCAC (D) Operation, FY 84

These publications, written at USAISD, are printed under contract to the United States Army Training Support Center and distributed by the United States Army Adjutant General Publications Center Baltimore, Md. Requests for publications should be forwarded to Baltimore. Current status of any of these publications and projected print dates may be determined by contacting Mr. Daniel H. Taylor, Jr., chief, Training Literature Branch, U.S. Army Intelligence School, Fort Devens, Mass. 01433, AUTOVON 256-3271.

Update on SQT

Skill qualification tests for six USAICS-trained MOSs are currently on-line: 17K, 26C, 96B, 96C, 96D, and 97B. Tests for the five remaining USAICS MOSs, 17M, 26E, 26F, 26K, and 97H are currently off-line, pending development of new Soldier's Manuals. The revised Soldier's Manuals, containing critical tasks for newly fielded equipment will be available in 1984 and 1985, and SQTs will be fielded in 1985 and 1986 for these MOSs.

As many soldiers have already realized, the 1983 SQT is radically different from the 1982 model. It is a streamlined, "refined" test, much easier to administer than last year's test. Some of the key features of the new SQT are:

- It has only one component, the written test, compared to three components (skill, hands-on and job-site) in the old test.
- The SQT notice consists only of a task list with references. (50 percent more tasks are listed than are actually tested). Sample questions are no longer included.
- The test window is now three months (six months for the Army reserve and National Guard) to provide timely feedback to commanders and training developers.
- One thing that does not change is that active component soldiers, grades E-1 through E-7 are required to take the SQT annually in their primary MOS. Results are still used for both training and personnel management purposes. Eligibility and exemption criteria are contained in AR 600-200, Chapter 5.

In addition to the formal SQT, MI soldiers will soon see two other products of the Army's Individual Training and Evaluation Program: the Common Task Test and Commander's Evaluations.

- The Common Task Test evaluates soldiers' performance of basic military tasks needed to survive and win on the modern battlefield (e.g., first aid, NBC, weapons maintenance, Threat recognition). All soldiers, grades E-1 through E-7, are required to take the CTT. This year's test is being administered between March and September. The notice for Common Task Test was published January 15, 1983 and should be available by now at all units, as should the new Skill Level 1 Soldier's Manual of Common Tasks, FM 21-1, December 1982. Track down the SMCT and the CTT Notice and get ready for this test.
- Commander's Evaluations. Under the ITEP concept, hands-on evaluation is delegated to unit commanders. USAICS will develop the products and unit commanders will run the program. Initially, evaluation guides will be published as Soldier's Manual Supplements. The evaluation guide for each task will consist of a set of instructions and a hands-on scoresheet. Eventually, these evaluation guides will be included in the Soldier's Manuals.

The commander's evaluation program is designed to be year-around, hands-on, relevant to the units' mission and relatively informal in the sense that results are for unit training feedback, not centralized personnel management.

ACSI Viewpoint

"Some Thoughts on Intelligence and the AirLand Battle"

By Maj.(P) James L. Solomon

The AirLand Battle demands better intelligence than any preceding Army tactical doctrine. This doctrine fully recognizes the dependence of its operations on intelligence while it changes the requirements and the environment in which intelligence operations must be conducted. Intelligence Preparation of the Battlefield, an ability to see deep, support to rear area combat, and support to OPSEC are all vital requirements for success in AirLand Battle. Chapter 6 of FM 100-5 addresses this topic, and this article is not meant to repeat that information, but to share some particular thoughts.

IPB has been around for several years, and tactical intelligence personnel and maneuver commanders and staffs have learned to use it. Now the challenge is to give commanders information on the constraints and opportunities afforded both sides by terrain and weather when it is needed and in the most meaningful form. AirLand Battle requires IPB coverage of larger areas to include the friendly rear. This increased coverage will tax our ability to analyze and prepare the necessary graphics. Storing the large volume of graphics will also pose a problem. Technology will assist in collecting, collating, and displaying data, but technology will never be as important as intelligence professionals who genuinely understand how tactical forces deploy and move on the battlefield. That personal understanding, best gained by experience with armor and infantry on the ground, is absolutely vital in transferring the abstract symbols of our highly sophisticated IPB graphics to actual effects on troops and machines maneuvering over that terrain. Leaders should avail themselves of opportunities to put our young MI soldiers with combat arms units in training situations to gain this firsthand experience. Nothing will teach an analyst about the effects of a swamp on a tank column like being in a tank attempting to negotiate one.

Seeing deep is an imperative of AirLand Battle. This requirement was addressed in the recent IEWSPR, and Army materiel developers are moving to fill our voids. However, FM 100-5 recognizes that commanders will not have the organic assets to cover their areas of interest. Therefore, much of the required intelligence must be provided from higher echelons. A significant amount of it will come from Air Force and national assets because the Army just cannot project reconnaissance and surveillance assets to the required ranges. This reliance on higher, joint, and national assets implies a dedicated, reliable communications system to move the information rapidly to the commander who needs it. Intelligence communications requirements must receive the highest emphasis at all levels to ensure the resources are provided.

While a great deal has been said about the main battle area and deep attacks, significantly less attention has been given the rear area combat which will occur simultaneously as the enemy employs special operations, airmobile, and airborne forces to support his main effort. We must address intelligence support to combat service support organizations which will bear the brunt of these assaults and which must try to defeat them with little or no assistance from maneuver units fighting the main battle. Counterintelligence personnel will play a very important role in combating Level I and Level II threats to the rear area. Captured enemy agents and troops must be quickly interrogated and operations conducted to neutralize the threat. Intelligence soldiers who habitually operate in the rear must also be prepared to provide general tactical intelligence expertise. This may mean augmenting a Military Police headquarters as analysts and collection managers to help that commander see his battlefield and employ those rear area forces who will be leaving their forklifts and fuel tankers to fight. This means counterintelligence agents and interrogators, among others, must have a good working knowledge of these general intelligence skills as well as their specialties.

Given the fact that AirLand Battle must be fought by an outnumbered force, OPSEC assumes a greater than ever importance. Without OPSEC necessary combat units can never be positioned to jump off in the deep attack nor will they be able to achieve the surprise vital to their success. The enemy must be unaware of where the next attack is coming from or its objective. The required intelligence support to OPSEC and deception transcends passive countermeasures such as advice on camouflage, COMSEC, and light security. We must be able to assess enemy inteiligence collec-

tion capabilities and activities, identify indications of what the enemy has learned about us, and advise the commander of how well or how poorly we have succeeded in hiding our intentions. This must be done at every echelon, and we intelligence professionals have not given this due thought nor have we practiced meeting these requirements. USAICS is working on this as part of its overall assessment of counterintelligence, but this is an area that deserves the attention of the whole community. We must be able to give the commander this kind of support because to do otherwise is to leave success in AirLand Battle to pure chance. We cannot afford the luxury of hoping we have outguessed the enemy. We must know that we have—or change the operation accordingly.

Not only has AirLand Battle changed the requirements for intelligence on the battlefield, it has changed the environment, also. Speed, agility, comprehensiveness, and the offensive spirit partially describe this new environment. Intelligence operations must assume these same characteristics if they are to help the commander win rather than provide him a history.

Those who were initially involved with helicopters and the air assault concept were among the first to realize the impact of pure speed on the battlefield of the future. Now the M1 tank and other new, fast ground systems are rapidly awakening the remainder of the Army to this aspect of battle. The impacts for MI are obvious. We have to perform at a faster pace, and we must look at larger areas to provide sufficient lead time for commanders to react. IEW systems must be able to displace and return to operations quickly to keep up with the maneuver units to which we are tied.

AirLand Battle demands mental and analytical agility. We cannot afford the luxury of looking at the battlefield in a rigid, formalistic manner. We must be able to shift our attention and efforts rapidly from locating deep targets to repelling sudden assaults on our rear, to identifying the main attack against forward maneuver forces. This agility must extend from our analyses to collection management and collection means. The old familiar exercise scenarios are too structured. Fight the main battle along the forward line of own troops for a day or two followed by a chance to repel an attack in the rear area. Finally conduct a major counterattack which always achieves success just prior to exercise termination and return to garrison. This just will not prepare us for AirLand Battle execution. A clear forward edge of battle area trace probably won't exist after two or three days of combat. Scenario writers and exercise controllers must provide realistic scenarios with actions in depth to the rear and far forward of the original FEBA. The agility to shift the focus of intelligence rapidly throughout the battle area requires initiative, innovation and practice if it is ever to be attained.

Another element of the AirLand Battle environment is comprehensiveness. Intelligence must be comprehensive in both means employed and area covered. While work may be done in a specialized area, management of collection and production will not tolerate isolation by discrete functions—SIGINT, IMINT, HUMINT, or any other. Managers, workers, and their mechanical aids must be all-source to the absolute maximum extent possible. Our assets are too few and events will move too fast to allow separation beyond the first opportunity for fusion. The treatment of the entire battle area has already been discussed under agility, but it should be mentioned here that while focus may shift, the entire area must always be assessed. AirLand Battle perceives the battlefield as an entity from the friendly rear boundary to our deep strike targets. We cannot afford to become so fixed on conducting our deep attacks that we fail to identify a threat to our rear or so involved with the immediate close in battle that we fail to look for opportunities to surprise and confuse the enemy with strikes against his rear.

This search for opportunities to take the battle to the enemy is an aspect of what may be the most significant change in the environment occasioned by AirLand Battle—our offensive spirit. We will not surrender the impetus to the enemy to stage and conduct his attacks at a time and place of his choosing while we try to anticipate and defend against his efforts. Now we will search for opportunities to seize the initiative, strike him when and where we choose, cut off his forces, and dictate the action. The eagerness of our combat forces to undertake this mission must be matched by corresponding enthusiasm of intelligence professionals and supported by unceasing efforts to identify opportunities in sufficient time for commanders to take advantage of them.

The changing requirements and environment of AirLand Battle will be met by concomitant changes in intelligence equipment and techniques. But equipment and techniques will be useless without qualified, trained people attuned to the mission. In October 1982, a policy for the professional development of MI officers was promulgated which will provide officers prepared to meet the all-source, comprehensive requirements of AirLand Battle. USAICS is working to revise enlisted career patterns to ensure they provide soldiers prepared to operate in this environment.

While these new programs are put in place, it is incumbent on every intelligence professional to assess the requirements and impacts of AirLand Battle on the organization at hand. We must make the necessary changes in procedures and attitudes, and we must conduct demanding, realistic training. Above all, we must focus on the essentials of our job. We cannot become mired in the volumes of information and lose sight of our objective. Nor can we waste effort on producing the nice-to-have or feeding other intelligence systems which just produce more reams of data. To fight the AirLand Battle, intelligence people must understand what the commander needs and get it for him—no more—no less. Intelligence is for the commander.

Feedback - Continued from page 3

them in manpower and equipment. Another five corps were formed in September.

The article misses what was perhaps the largest Soviet airborne operation during the war, the landing of the 4th Airborne Corps and associated units west of Moscow in January-February 1942. Although too weak to attain its goal of interdicting German supply lines, the Corps diverted German forces from the front for four months. In the September 1943 airborne landing (near Kanev), only the 5th and part of another brigade were actually dropped. Poorly trained transport pilots scattered the troops widely, and the remaining units were called off because the force's total radio communications system was misloaded and lost.

In April 1942, they began converting the corps into guards rifle divisions, and independent airborne brigades began reforming into guards rifles brigades (grouped into guards rifle corps). These units retained their airborne officers and parachute-trained cadre, and fought as elite units in main sectors. In September 1942 a new set of airborne corps was formed and reorganized in December into ten guards airborne divisions. In April 1943 they formed new airborne brigades, most of which were converted into six more guards airborne divisions during the summer. The guards airborne divisions were used exclusively for ground control; several were eventually formed into the 9th Guards Army.

It is important to recognize that the Soviet's perceive the airborne forces as more than merely parachute and airborne landing units. First of all, they are elite units which may conduct airborne operations if the need and opportunity exists. More importantly, their training, leadership, and morale have prepared them to serve primarily as above-average ground combat units. The World War II experience indicates that they would most likely be encountered in this latter role, rather than being retained in reserve in case airborne transport was lacking. The adaptability of the Soviet army to changing situations is well illustrated by the series of organizational changes in the airborne forces. Anyone studying the Soviet military should expect that the airborne forces would show considerable adaptability in organization and employment, including significant adjustments to order of battle. Often seen as rigid and ponderous, the Soviet armed forces actually exhibit many examples of flexibility and rapid change in response to events.

James F. Goff, Ph. D.
Professor of Geography
Mankato State University
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Editor:

I am a new subscriber to your magazine, and find myself very impressed by both the physical quality of the magazine and the contents. As an amateur student of modern military affairs, I found the information contained throughout the magazine of a high order of quality.

I did notice in the articles on the "Soviet Airborne" and the Soviet naval infantry section of the "Special Operations Forces" (October-December 1982 issue of MI Magazine) two major points that I believe require clarification.

I have been working, for the last seven years, on a project for a book covering the period before the opening of Operation Barbarossa and the first six months of the campaign. During this period, I taught myself Russian to better access the available sources, since I already have a good working knowledge of German and didn't want to become too one-sided in my research.

At any rate, I found that the "Soviet Airborne" article tends to indicate that the Soviet force, at 30,000, was the largest and best-trained airborne force in the world. Not so. My research has tended to show that the Soviets were not universally jump-trained and that in fact many of the so-called qualified paratroopers had never even been off the ground! (Quick reference in case you don't believe me—Erickson: ***Road to Stalingrad***'s first section). Furthermore, although Soviet parachute unit participation during the initial phases of the campaign was limited to a ground role, with only minor efforts, several major drops, of battalion size or larger did occur during the Battle of Moscow, especially on areas in the German rear. Drops of as large as 2200 men occurred in late January 1942 in the vicinity of Vyazma, and a large-scale drop of 7000 men occurred late in February 1942 in the vicinity of Yukhnov.

In the Soviet naval infantry section of the "Special Operations Forces" article, I found the lack of any reference to the historic role of the naval infantry Soviet military operations neglected in a similar fashion. The earliest instance I know of cooperation between an assaulting landing force and parachute infantry units dropped in the enemy's rear occurred during the Siege of Odessa. Furthermore, the role of cooperation between local partisan units and the assaulting naval infantry units was not mentioned, even though this is known to have occurred during the assault landings on the Kerch Peninsula and the subsequent operations against the 42nd Armee-Korps in late December 1941; this force was of vital importance in securing port facilities for the insertion of other follow-up units. In my opinion, while the reconnaissance and raiding role is of great importance to the Soviet naval infantry, of equal importance has been the historic role of clearing the way for the insertion of unspecialized infantry units.

Once more, thanks for a highly informative magazine.

Robert C. Smith

Professional Reader

Modern France: Mind, Politics, Society, by Barnett Singer, University of Washington Press, 229 pages, $16.95.

This book is an interesting and provocative study of France and its history for the past one hundred years. The author, Barnett Singer, is a historian, who has taught at universities in the United States and Canada. Several of the chapters in ***Modern France*** have appeared in various scholarly journals as separate essays.

Singer begins his work with a review of ***La Belle Epoque,*** the apparently glorious era of prosperity and balance in France before World War I. Behind this facade, however, French society was divided by the struggle between liberal anticlericals and republicans of the Third Republic and conservative Catholics and aristocrats over political direction and education. The author then goes on to analyze the disastrous effects of World War I on the French. He is extremely critical of Gen. Joseph Joffre, Marshall of France and Chief of Staff from 1914 until the end of 1916. Singer notes that the Marshall sent forth wave after wave in those assaults of 1916 and made Verdun and the Somme the disasters that they were. There is a perceptive insight into the political and philosophical thought of France between the two wars. The author accomplishes this through the reviews of Georges Clemenceau, the politician and Tiger of France, Paul Valery, the poet and philosopher, and Pierre Drieu La Rochelle, the fascist writer.

Singer presents an excellent analysis of France during World War II. The chapters on the occupation, the French Resistance and the treatment of the Jewish population are descriptive, incisive and sympathetic. The portrayal of a defeated and occupied France suffering under the heel of Nazi German oppression and divided between collaborationists and resistance fighters and agents is well done. There is, as well, a poignant remembrance of the frightful fate which befell thousands of Jews in France.

The author concludes with some personal reminiscences and views on developments in France after World War II. The main criticism that may be levied against Singer is that he sparingly mentions the influence of Charles de Gaulle in France during and after World War II. The author virtually ignores the continued Communist threat to France as well. The presence of a large, well-disciplined, vocal and active French Communist Party, which is aligned to Moscow, is still a potential source of subversion and a weak link in the West.

Overall, Singer has presented an informative and useful insight into the development of modern France. The notes and index are clear and helpful. This book should serve as a good primer for English-speaking readers seeking to learn more about the recent history of that enigmatic ally, friend, and neighbor—France.

John H. Carroll

End of the Affair: The Collapse of the Anglo-French Alliance, 1939-40, by Eleanor M. Gates, University of California Press, Berkeley, 1981, 630 pages.

What happened in 1940 to the alliance between Great Britain and France, the ***Entente Cordiale,*** that lasted from 1904 to 1940? The answer is obvious in light of the German "blitzkrieg" against France which quickly split the partnership asunder. This book attempts to look not only at the reasons for France's collapse but also at the actual human relationships and events that led to it.

The author couches this coverage of the Anglo-French division in the style of a five-act Shakespearean drama. She looks first at preliminary events in Poland and Finland, then the culmination with the French collapse and subsequent British attacks against the French fleet at Oran. She provides a well-written narrative that flows through the tragic events of 1940.

The excellent main core of this book is supported with extensive footnotes, appendices and bibliography that greatly contributes to future work in this area. ***End of the Affair*** will appeal to anyone interested in wartime diplomacy and the early months of World War II for England and France.

Capt. Don Rightmyer
USAF Directorate of Soviet Affairs

Space War by David Ritchie, Atheneum, 224 pages, $14.95.

Science writer Ritchie follows the history of ***Space War*** from Goddard, the father of rocketry, to the race for a place in the heavens of today.

Already outer space is crowded with machinery of battle: killer satellites, orbiting platforms on which to build super weapons, cameras so sensitive they can read the insignia on a soldier's shoulder patch miles below, listening devices that can "hear" anything louder than the pop of a cigarette lighter, laser beams of staggering accuracy.

As of this writing more than a dozen nations and international organizations have sent payloads into orbit. China, Russia and the United States are not the only nations building military space systems.

Space War is on the drawing boards of many nations. Particle beam weapons like Buck Roger's "disintegrator" and electronic beams like giant controlled flashes of lightning are being designed now. It is a story of scientific enterprise as exciting as it is alarming. This book leaves the reader feeling that ***Star Wars*** and ***E.T.*** are maybe as near as next year or next week. ***Space War,*** Ritchie shows, would be hell on us earthlings or hell on earth.

Dail Graff, DAC

Why do personnel security clearances take so long?

The Problem

Perhaps even more frustrating than not having a soldier to fill a position is to have a soldier who cannot perform a duty because he or she doesn't have the proper personnel security clearance. The paperwork is in but it seems like it takes an eternity for the clearance to come back granted.

The General Accounting Office estimates that the military services lose about $580 million in productivity of military personnel per year while soldiers, airmen and sailors wait for security clearances. But this loss of productivity, and its accompanying frustration, can be substantially reduced.

You can help reduce lost productivity and speed up the process of getting soldiers the necessary security clearance by understanding the system and using it properly.

The Process

The process of filling a vacant position requiring a security clearance begins with a requisition. The personnel security clearance requirement for a particular requisition is indicated by a security investigation status code. This tells MILPERCEN to select a soldier with a special qualification—the personnel security clearance.

From the soldiers available for reassignment in a particular grade and skill, a career manager at MILPERCEN nominates a qualified soldier to fill the requisition. If this nomination involves access to sensitive compartmented information, it is coordinated with MILPERCEN's central clearance facility. CCF is the centralized activity which grants, revokes and denies personnel security clearances for all Army activities worldwide based on completed investigations and other information. All nominations requiring a personnel security clearance will be coordinated with CCF effective July 1983.

CCF tells the career manager the current security clearance of the soldier and what is necessary if a clearance has to be updated or upgraded.

The MILPERCEN career manager then informs the losing command's military personnel office of the planned assignment and the security clearance requirement through the Centralized Assignment Procedures III.

This is where the system begins to falter. It is then the MILPO's responsibility to inform the security manager of the personnel security clearance requirement.

The security manager, working with the individual soldier being reassigned must prepare the necessary paperwork to initiate a request for a personnel security investigation commensurate with the clearance needed, and forward it to the Defense Investigative Service. Failure to complete this action in a timely manner is the single greatest source of problems in the personnel security investigations process.

The Joint Chiefs of Staff standard for initiating a security clearance request is that paperwork will be forwarded to DIS within 21 days of receipt of the CAP III. Command emphasis and a close working relationship between MILPO's and security managers are fundamental to reducing security clearance processing time.

DIS, which conducts all personnel security investigations for the military services, will take anywhere from a few weeks to four or five months to complete its investigation.

Upon completion, the investigation is forwarded to CCF for adjudication. Using the investigation results and other sources of information, a specialist at CCF makes a judgment whether to grant a clearance based on the criteria for the required clearance. Once a case is ready for adjudication at CCF, it rarely waits longer than 15 days for final action.

Once CCF has adjudicated the case, it informs the security manager and forwards the Certificates of Clearance, DA Form 873.

The security managers must inform and forward the Certificate of Clearance to the MILPO. This completes the personnel security clearance cycle.

Ideally, the security clearance cycle is completed before a soldier departs his or her losing command. If the soldier has already departed when the clearance comes back to the losing installation, the possibility of a greater delay exists if the losing command fails to promptly forward the clearance certificate to the gaining command.

Solution

Communication and coordination in the personnel security clearance process are essential between the MILPO and MILPERCEN and between the MILPO (G1, S1) and the security manager (G2, S2). Each player must understand the role of the other and meet his or her responsibility. Losing commands are most often the culprits guilty of foot-dragging while the gaining commands suffer.

Here are a few ideas that may help speed the process:

- Commands should develop standard operating procedures to facilitate the coordination needed to make the processing of personnel security clearances a smooth and efficient operation.
- To reduce investigative workload, commands should periodically conduct reviews to ensure personnel security requirements are consistent with mission needs, and that only necessary investigations are requested.
- Commands should ensure the requisitions accurately and clearly indicate all pertinent data, such as security clearance investigation status codes, clearance requirements, including scope, recency of investigation requirement, and other qualifying or screening criteria.
- MILPO's (G1, S1) and security managers (G2, S2) need to have a working relationship when it comes to the security clearance process.
- Finally, command interest tends to accomplish positive results. What commanders and chiefs of staff are interested in mysteriously generates interest among their staffs.

You have a part in making sure that the soldier arrives at the gaining command with the proper clearance to perform his or her assigned duty. MILPO's and security managers must consider the personnel security clearance as important as MOS, ASI, and grade in assigning the right soldier to the right duty.

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